LG Electronics Inc.

www.lge.com

LCD TV | OWNER'S MANUAL

Life's Good

LCD TV
OWNER'S MANUAL

LCD TV MODEL
47LB1DA

Please read this manual carefully before operating your set. Retain it for future reference. Record model number and serial number of the set. See the label attached on the back cover and quote this information to your dealer when you require service.

LG Electronics Inc.

1080P FULLHD

P/NO : 38289U0512V (0610-REV00)
Printed in Korea

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WARNING / CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING/CAUTION

TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

WARNING / CAUTION

To prevent fire or shock hazards, do not expose this product to rain or moisture.

FCC NOTICE

Class B digital device

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

CAUTION

Do not attempt to modify this product in any way without written authorization from LG Electronics. Unauthorized modification could void the user’s authority to operate this product

SAFETY INSTRUCTION

IMPORTANT SAFETY INSTRUCTIONS

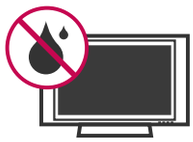
Important safety instructions shall be provided with each apparatus. This information shall be given in a separate booklet or sheet, or be located before any operating instructions in an instruction for installation for use and supplied with the apparatus.

This information shall be given in a language acceptable to the country where the apparatus is intended to be used.

The important safety instructions shall be entitled “Important Safety Instructions”. The following safety instructions shall be included where applicable, and, when used, shall be verbatim as follows. Additional safety information may be included by adding statements after the end of the following safety instruction list. At the manufacturer’s option, a picture or drawing that illustrates the intent of a specific safety instruction may be placed immediately adjacent to that safety instruction :

Read these instructions.
Keep these instructions.
Heed all warnings.
Follow all instructions.

1. Do not use this apparatus near water



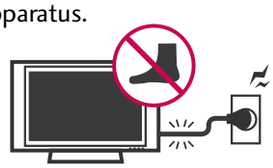
2. Clean only with dry cloth.

3. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions

4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers)that produce heat.

5. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong, The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

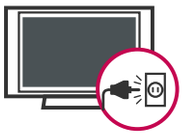
6. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.



7. Only use attachments/accessories specified by the manufacturer.

8 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

9 Unplug this apparatus during lightning storms or when unused for long periods of time.



10 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has exposed to rain or moisture, does not operate normally, or has been dropped.

11 CAUTION concerning the Power Cord :
Most appliances recommend they be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain.

Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer. Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance.

12 Outdoor Use Marking :
WARNING - To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Appliance To Rain Or Moisture

13 Wet Location Marking : Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on or over apparatus.

14 DISCONNECTING DEVICE FROM MAINS
Mains plug is the disconnecting device. The plug must remain readily operable.

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After reading this manual, keep it handy for future reference.

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INTRODUCTION

178° - Wide angle range of vision

Your flat panel screen offers an exceptionally broad viewing angle of over 178 degrees. This means that the display is clear and visible to viewers anywhere in the room.

Wide Screen

The wide screen offers a theater-like experience in your own home.

Multimedia

Connect your display to a PC and use it for conferencing, games, and Internet browsing. The Picture-in-Picture feature allows you to view your PC and video images simultaneously.

Versatile

The light weight and thin size makes it easy to install your display in a variety of locations where conventional TVs do not fit.

The Product Manufacturing Process: a few minute colored dots may be present on the TV screen

This TV is composed of 0.9 to 2.2 million cells. A few cell defects will normally occur in the this TV manufacturing process. Several tiny, minute colored dots visible on the screen should be acceptable. This also occurs in other this TV manufacturers' products. The tiny dots appearing does not mean that this TV is defective. Thus a few cell defects are not sufficient cause for this TV to be exchanged or returned. Our production technology minimizes these cell defects during the manufacture and operation of this product.

If the TV feels cold to the touch, there may be a small "flicker" when it is turned on. This is normal, there is nothing wrong with TV.

Some minute dot defects may be visible on the screen, appearing as tiny red, green, or blue spots. However, they have no adverse effect on the monitor's performance.

Avoid touching the LCD screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.

On Disposal

a. The fluorescent lamp used in this product contains a small amount of mercury.

b. Do not dispose of this product with general household waste.

c. Disposal of this product must be carried out in accordance to the regulations of your local authority.

Official term for an HDTV that conforms to the plug-and-play digital cable TV standard using POD (Point of Deployment) access cards, also called CableCARDs, that allow users to plug the cable directly into an HDTV set and enjoy HDTV and digital cable without having to use a separate set-top box.

is a trademark of SRS Labs, Inc. TruSurround XT technology is incorporated under license from SRS Labs, Inc.

Manufactured under license from BBE Sound, Inc.

Manufactured under license from Dolby Laboratories. "*Dolby* "and the double-D symbol are trademarks of Dolby Laboratories.

High-definition television. High-resolution digital television broadcast and playback system composed of roughly a million or more pixels, 16:9 aspect-ratio screens, and AC3 digital audio. A subset of digital television, HDTV formats include 1080i and 720p resolutions.

HDMI™, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing."

LG's own special digital image generator, consisting of a full digital image processor, APM mode & six different main picture quality factors.

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TV GUIDE ON SCREEN™ NOTICES FOR U.S.A.

Trademark Notice

In the United States, TV GUIDE and other related marks are registered marks of Gemstar-TV Guide International, Inc. and/or one of its affiliates. In Canada, TV GUIDE is a registered mark of Transcontinental Inc., and is used under license by Gemstar-TV Guide International, Inc.

License Notice

The TV Guide On Screen™ system is manufactured under license from Gemstar-TV Guide International, Inc. and/or one of its affiliates.

Patent Notice

The TV Guide On Screen™ system is protected by one or more of the following issued United States patents 6,498,895, 6,418,556, 6,331,877; 6,239,794; 6,154,203; 5,940,073; 4,908,713; 4,751,578; 4,706,121.

Use of the CableCARD™ TradeMark.

"CableCARD™ is a trademark of Cable Television Laboratories, Inc."

Gemstar-TV Guide International Inc. and/or its related affiliates are not in any way liable for the accuracy or availability of the program schedule information or other data in the TV Guide On Screen system and cannot guarantee service availability in your area. In no event shall Gemstar-TV Guide International, Inc. and/or its related affiliates be liable for any damages in connection with the accuracy or availability of the program schedule information or other data in the TV Guide On Screen system.

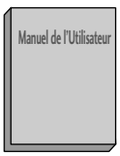
DIGITAL CABLE COMPATIBILITY

This digital television is capable of receiving basic analog, digital basic and digital premium cable television programming by direct connection to a cable system providing such programming. A security card provided by your cable operator is required to view encrypted digital programming. Cable operator enhanced program (For example, electronic program guide provided by the cable operator), and data enhanced television service may require the use of a set top box. For more information contact your local cable operator.

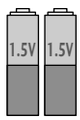
ACCESSORIES

Ensure that the following accessories are included with your product. If an accessory is missing, please contact the dealer where you purchased the product.

User must use shielded signal interface cables (D-sub 15 pin cable) with ferrite cores to maintain standard compliance for the product.



Owner's Manual

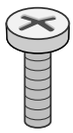


Batteries

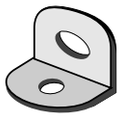
Remote Control

Power Cord

75ohm Round Cable



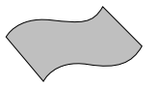
2-TV Bracket Bolts



2-TV Brackets,
2-Wall Brackets

Cable Management
(Refer to p.15)

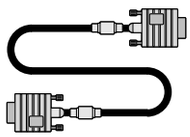
Twister Holder
Arrange the wires with the twister holder.



Polishing Cloth
Polish the screen with the cloth.

* Slightly wipe stained spot on the exterior only with the cleansing cloths for the product exterior if there is stain or fingerprint on surface of the exterior.
* Do not wipe roughly when removing stain. Please be cautions of that excessive power may cause scratch or discoloration.

Option Extras



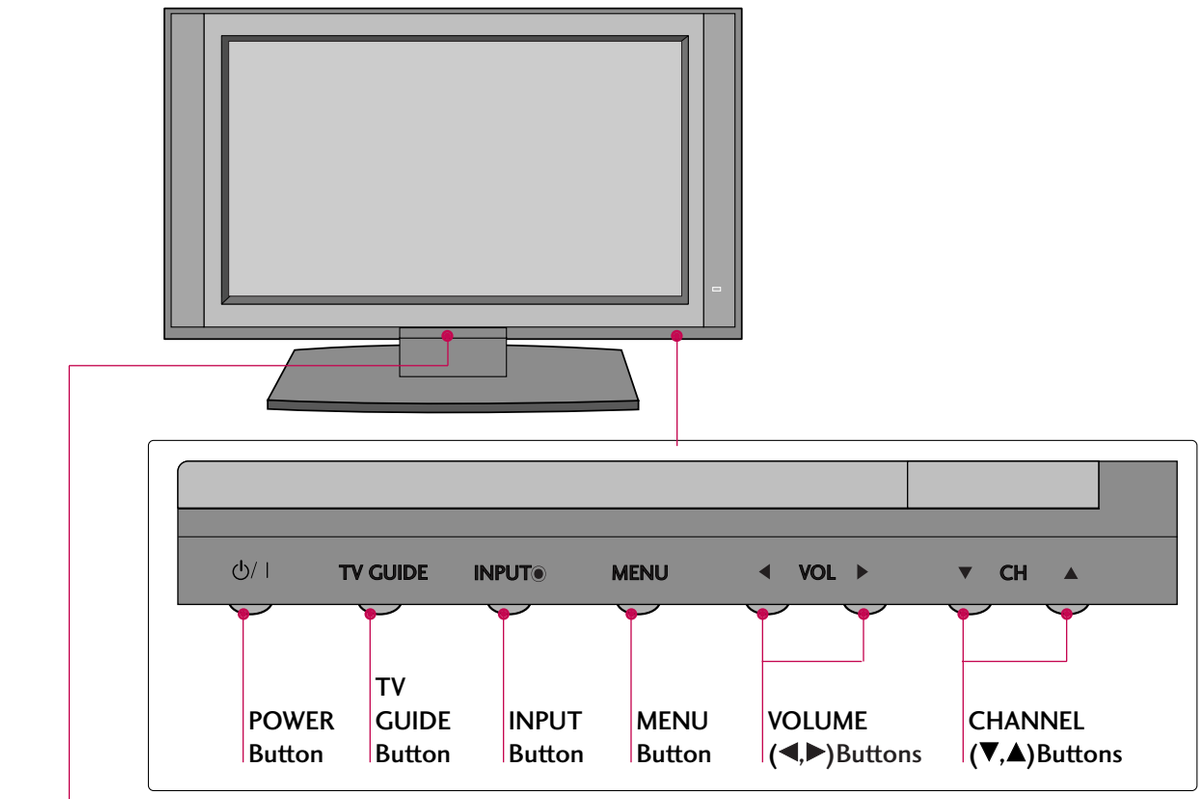
D-sub 15 pin Cable

INTRODUCTION

CONTROLS

■ Here shown may be somewhat different from your TV.

Front Panel Controls



Power Standby Indicator
Illuminates red in standby mode.
When the TV is turned on, the indicator blinks white and then illuminates white before the picture is displayed.

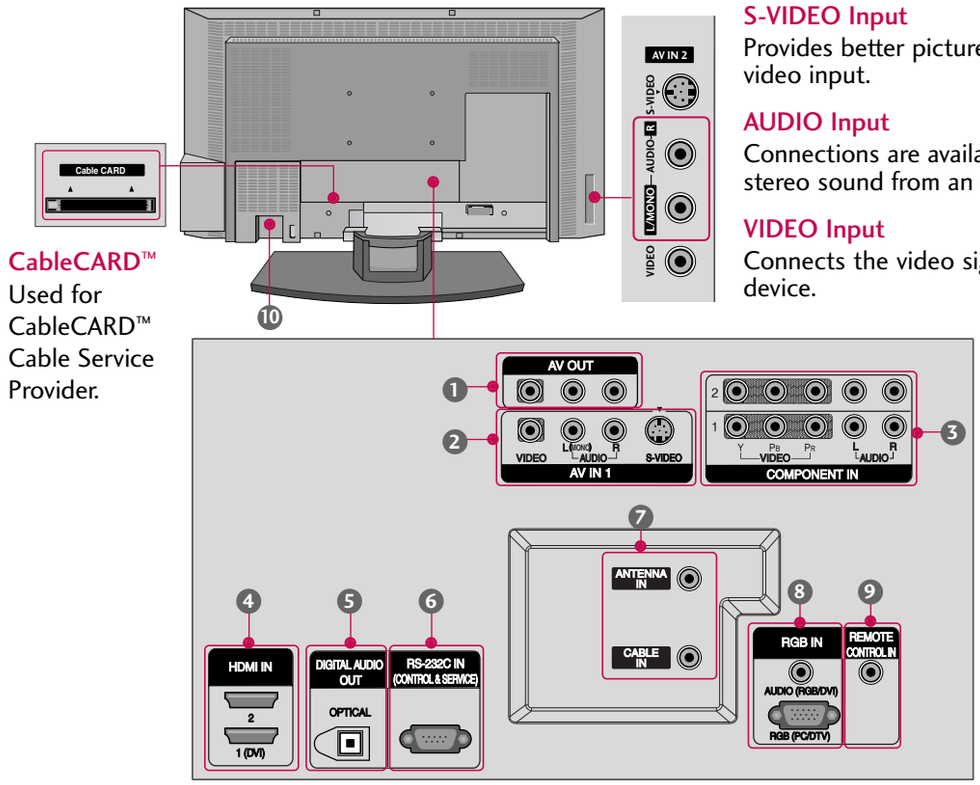
Remote Control Sensor

INDEX

- Digital Cable Ready
- HDTV mode
- AV mode
- Component mode
- RGB-PC mode
- HDMI1/DVI or HDMI2 mode

CONNECTION OPTIONS

Back Connection Panel



CableCARD™
Used for CableCARD™ Cable Service Provider.

S-VIDEO Input
Provides better picture quality than the video input.

AUDIO Input
Connections are available for listening to stereo sound from an external device.

VIDEO Input
Connects the video signal from a video device.

1 AV OUT
Connect a second TV or monitor.

2 AV (Audio/Video) IN 1
Connect audio/video output from an external device to these jacks.
S-VIDEO
Connect S-Video out from an S-VIDEO device.

3 COMPONENT IN
Connect a component video/audio device to these jacks.

4 HDMI IN
Connect a HDMI signal to 1 (DVI) or 2.
Or DVI(VIDEO)signal to the 1 (DVI) port with a DVI to HDMI cable.

5 DIGITAL AUDIO OUT
Connect digital audio from various types of equipment.
Note: In standby mode, these ports do not work.

6 RS-232C IN (CONTROL & SERVICE) PORT
Connect to the RS-232C port on a PC.

7 ANTENNA IN
Connect over-the air signals to this jack.
CABLE IN
Connect cable signals to this jack.

8 RGB/AUDIO IN
Connect the monitor output from a PC to the appropriate input port.

9 Remote Control Port
Connect your wired remote control.

10 Power Cord Socket
For operation with AC power.
Caution:
Never attempt to operate the TV on DC power.

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REMOTE CONTROL KEY FUNCTIONS

When using the remote control, aim it at the remote control sensor on the TV.

TV INPUT In AV 1-2, Component 1-2, RGB-PC (or RGB-DTV), HDMI1/DVI, and HDMI2 input sources, screen returns to the last TV channel.

INPUT External input modes rotate in regular sequence: Antenna, Cable, AV1-2, Component 1-2, RGB-PC (or RGB-DTV), HDMI1/DVI and HDMI2.
(AV 1-2, Component 1-2, RGB-PC (or RGB-DTV), HDMI1/DVI, and HDMI2 input sources are linked automatically, only if these are connected.)

POWER Turns your TV or any other programmed equipment on or off, depending on the mode.

RATIO Change the aspect ratio. ▶ p.92-93

☼ +/-
- Adjusts brightness on screen.
- It returns to the default settings brightness by changing mode source.

EXIT Clear all on-screen displays and return to TV viewing from any menu.

CC Select a closed caption. ▶ p.94
(*In DTV/CADTV mode ▶ p.95)

MENU Displays the main menu. Enters or exits a Panel Menu in the TV Guide On Screen system.

TV GUIDE Displays the TV Guide On Screen system.

SAP
- Analog mode: Selects MTS sound (Mono, Stereo, and a SAP)
- DTV mode: Change the audio language.

NUMBER button

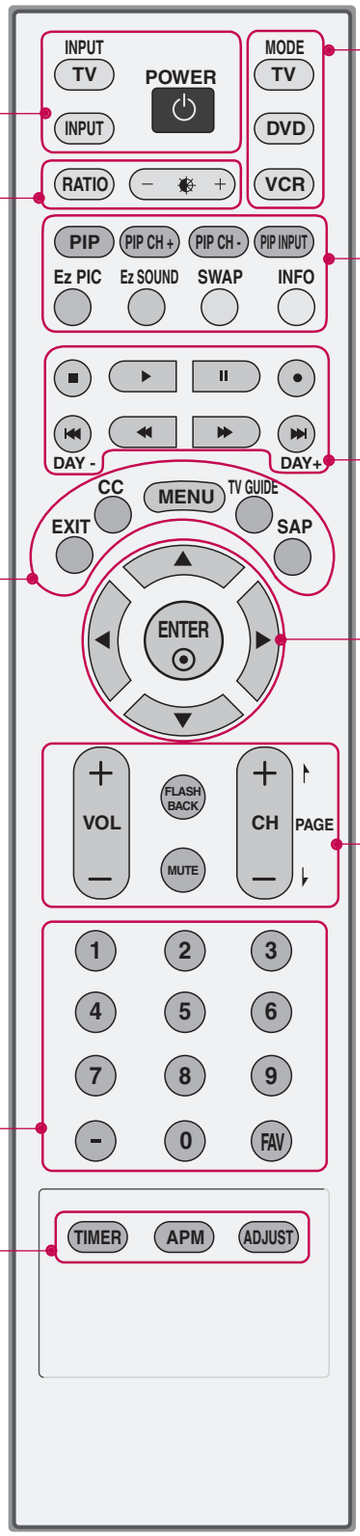
— (DASH) Used to enter a program number for multiple program channels such as 2-1, 2-2, etc.

FAV Scroll through the programmed Favorite channels.

TIMER Select the amount of time before your TV turns off automatically. ▶ p.90

APM Compare the Daylight, Normal, Night Time and User1(or2) on the screen. ▶ p.70

ADJUST Adjust the screen position, size, and phase in PC mode. ▶ p.34



TV, DVD, VCR, Select the remote operating mode: TV, DVD, or VCR.

PIP Switches the sub picture PIP, POP, Twin picture or off mode. ▶ p.58-61

PIP CH-/PIP CH+ Changes the PIP channel. ▶ p.59

PIP INPUT Select the connected input source for the sub-picture. ▶ p.59

SWAP Exchange the main/sub images. ▶ p.60

Ez PIC Adjust the factory preset picture depend on the viewing environment. ▶ p.69

Ez SOUND Select the appropriate type of sound for type of program. ▶ p.80

INFO Display information at the top of the screen. ▶ p.97

VCR/DVD control buttons Control video cassette recorders or DVD players.

DAY+/DAY- Move the Listings Grid forward or backward in 24 hour increments.

THUMBSTICK (Up/Down/Left Right/ENTER) Navigate the on-screen menus and adjust the system settings to your preference.

VOLUME +/- Increase/decrease the sound level.

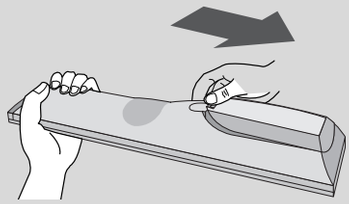
FLASHBK Tune to the last channel viewed.

MUTE Switch the sound on or off. ▶ p.38

CHANNEL +/- Select available channels.

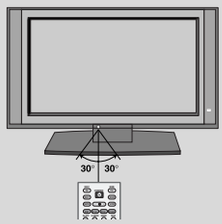
PAGE UP/DOWN Move from one full set of screen information to the next one.

Installing Batteries



- Open the battery compartment cover on the back side and install the batteries matching correct polarity (+with +,-with -).
- Install two 1.5V AA batteries. Don't mix old or used batteries with new ones.
- Close cover.

Remote control effective range

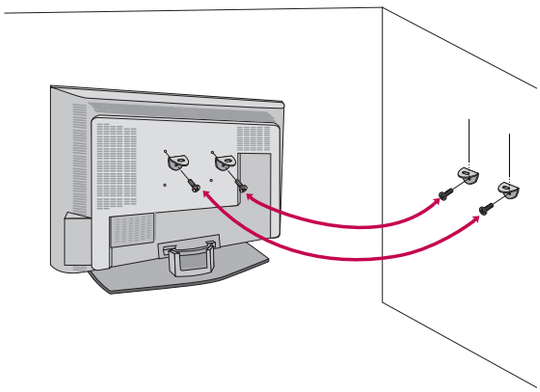


- Use a remote control up to 7 meters distance and 30 degree (left/right) within the receiving unit scope.
- Dispose of used batteries in a recycle bin to preserve environment.

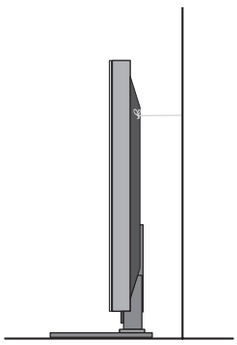
INSTALLATION

ATTACHING THE TV TO A WALL

We recommend that you set up the TV close to a wall so it cannot fall over if pushed backwards.
Additionally, we recommend that the TV be attached to a wall so it cannot be pulled in a forward direction, potentially causing injury or damaging the product.
Caution: Please make sure that children don't climb on or hang from the TV.



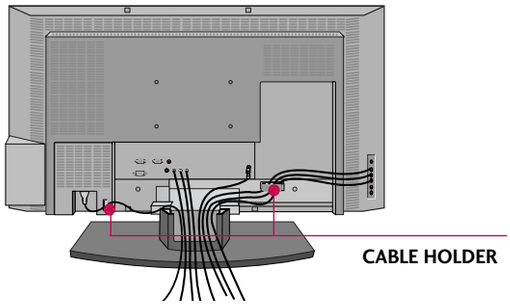
- Insert the eye-bolts (or TV brackets and bolts) to tighten the product to the wall as shown in the picture.
  Secure the wall brackets with the bolts (not provided as parts of the product, must purchase separately) on the wall. Match the height of the bracket that is mounted on the wall to the holes in the product.
  Ensure the eye-bolts or brackets are tightened securely.



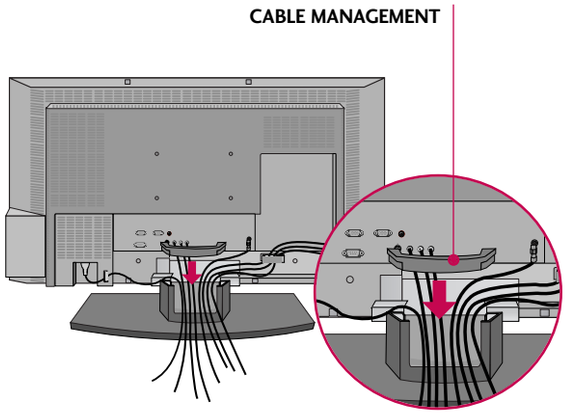
- Use a sturdy rope (not provided as parts of the product, must purchase separately) to tie the product. It is safer to tie the rope so it becomes horizontal between the wall and the product.

WIRE ARRANGEMENT

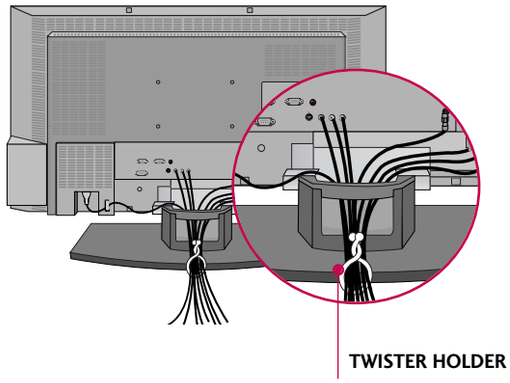
1 Connect the cables as necessary.
After connecting the cables neatly, arrange the cables to the Cable Holder.
To connect an additional equipment, see the **Connections & Setup** section.



2 Install the **CABLE MANAGEMENT** as shown.

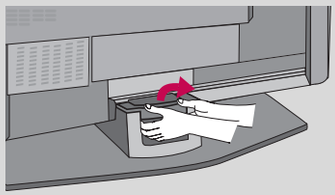


3 Bundle the cables using the supplied twister holder.



How to remove the CABLE MANAGEMENT

▶ Hold the **CABLE MANAGEMENT** with both hands and pull it upward.



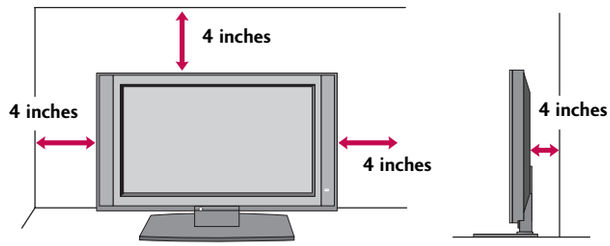
NOTE

▶ Do not hold the **CABLE MANAGEMENT** when moving the product.
- If the product is dropped, you may be injured or the product may be broken.

INSTALLATION

DESKTOP PEDESTAL INSTALLATION

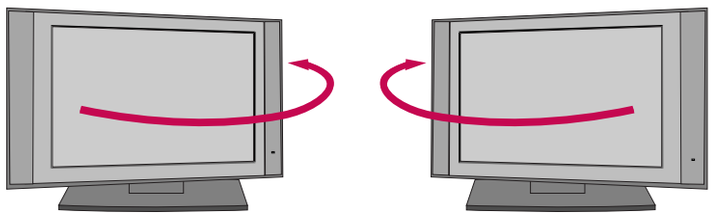
For proper ventilation, allow a clearance of 4inches on each side from the wall.



⚠ CAUTION

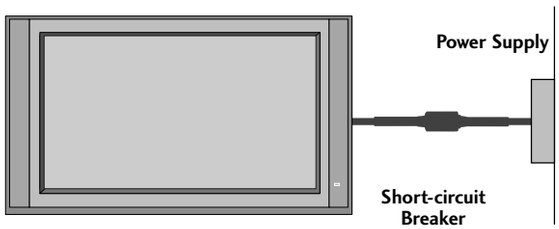
▶ Ensure adequate ventilation by following the clearance recommendations.

SWIVEL STAND



The TV can be conveniently swivelled on its stand 30˚ to the left or right to provide the optimum viewing angle.

■ Here shown may be somewhat different from your TV.



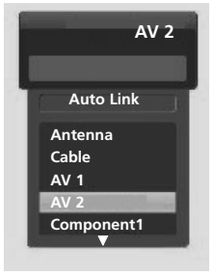
GROUNDING

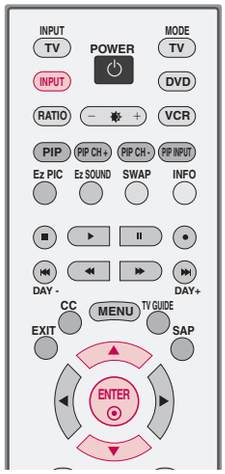
Ensure that you connect the earth ground wire to prevent possible electric shock. If grounding methods are not possible, have a qualified electrician install a separate circuit breaker.

Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.

CONNECTIONS & SETUP

AUTO LINK





Press the **INPUT** button and then displays the connected external equipment list on the screen.
Press the **ENTER** button to change the main input to the active external equipment. Use the ▲ or ▼ button to select the main input source.

1 When every external equipment is connected:

Antenna → Cable → AV1 → AV2 → Component1
↑ ↓
HDMI2 ← HDMI1/DVI ← RGB-PC (or RGB-DTV) ← Component2

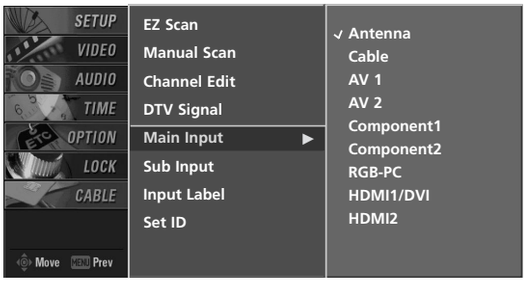
2 When any external equipment is not connected:

Antenna ⟷ Cable

3 When some External Equipment is connected:
(ex: When connected to AV 2)

Antenna → Cable → AV2
↑ ↓

- You can also select **Main Input** in the **SETUP** menu.



- **Antenna**: Select it when watching the TV/DTV.
- **Cable**: Select it when watching the CATV/CADTV.
- **AV 1-2**: Select it when watching the VCR or external equipment.
- **Component 1-2**: Select it when using the DVD or the Digital set-top box depend on connector.
- **RGB-PC/RGB-DTV**: Select it when using PC or Digital set-top box depend on connector.
- **HDMI1/DVI, HDMI2**: Select it when using DVD, PC or Digital set-top box depend on connector.

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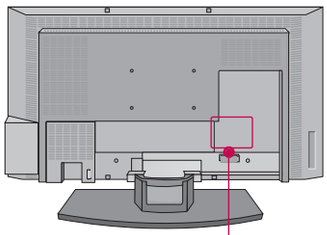
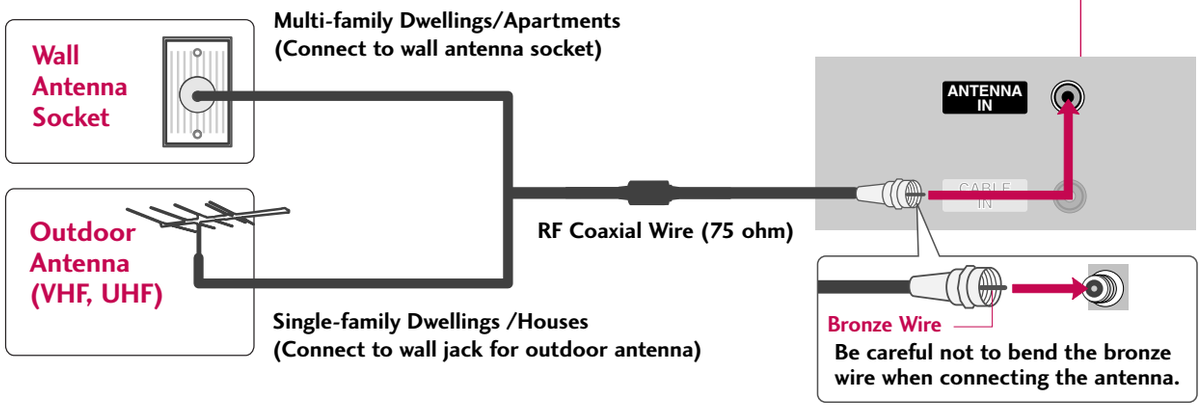
ANTENNA OR CABLE CONNECTION

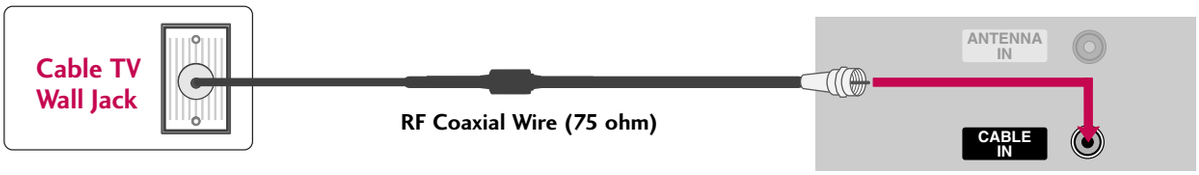
1. Antenna (analog or digital)

Wall Antenna Socket or Outdoor Antenna without a Cable Box Connections.
For optimum picture quality, adjust antenna direction if needed.

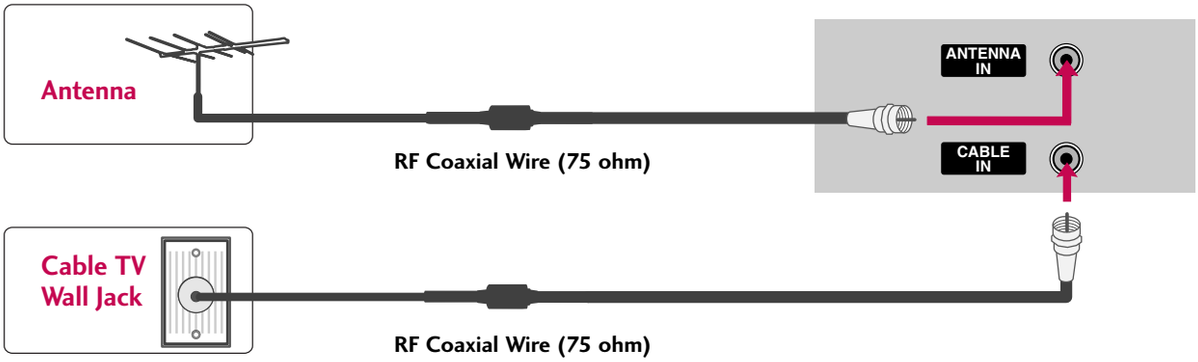


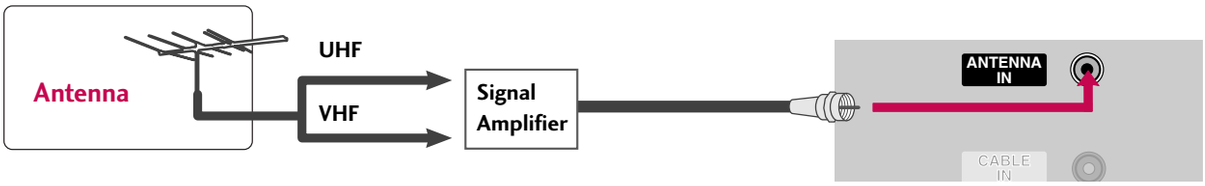

Wall Antenna Socket
Multi-family Dwellings/Apartments
(Connect to wall antenna socket)
Outdoor Antenna (VHF, UHF)
RF Coaxial Wire (75 ohm)
Single-family Dwellings /Houses
(Connect to wall jack for outdoor antenna)
ANTENNA IN
CABLE IN
Bronze Wire
Be careful not to bend the bronze wire when connecting the antenna.

2. Cable



3. Using both Cable and Antenna





- To improve the picture quality in a poor signal area, please purchase a signal amplifier and install properly.
- If the antenna needs to be split for two TV's, install a 2-Way Signal Splitter.
- If the antenna is not installed properly, contact your dealer for assistance.

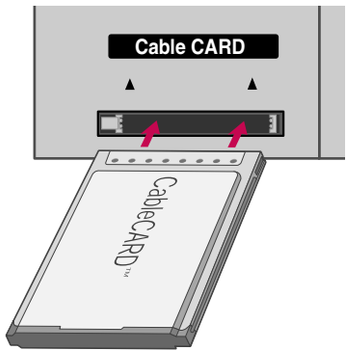
NOTE

▶ The TV will let you know when the analog, cable, and digital channel scans are complete.

CABLECARD™ SETUP

1. How to use

Insert the CableCARD™ from your cable service provider into the CableCARD™ slot on the back of your TV.
If pairing information about this TV and the CableCARD is displayed on the screen, contact your cable service provider.



NOTE

▶ This TV supports CableCARD™ technology from Motorola, Scientific Atlanta, and SCM.

CAUTION

▶ When removing, do not drop it as this may cause damage to the CableCARD™.

HDSTB SETUP

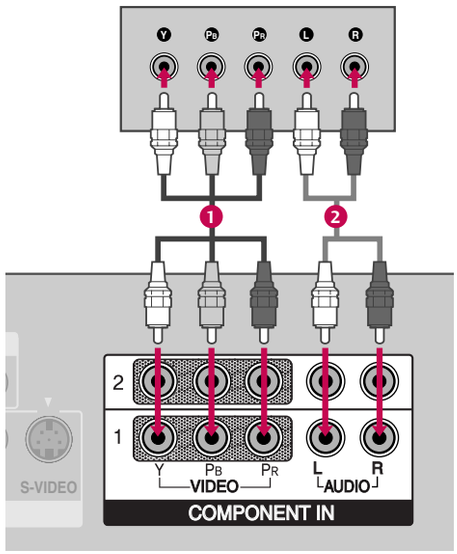
This TV can receive Digital Over-the-air/Cable signals without an external digital set-top box. However, if you do receive digital signals from a digital set-top box or other digital external device, refer to the figure as shown below.

This TV supports HDCP (High-bandwidth Digital Contents Protection) protocol for Digital Contents (480p,720p,1080i).

When connecting Component cable

1. How to connect

1. Connect the video outputs (Y, PB, PR) of the digital set top box to the **COMPONENT IN VIDEO 1** jacks on the set. Match the jack colors (Y = green, PB = blue, and PR = red).
2. Connect the audio output of the digital set-top box to the **COMPONENT IN AUDIO 1** jacks on the set.



2. How to use

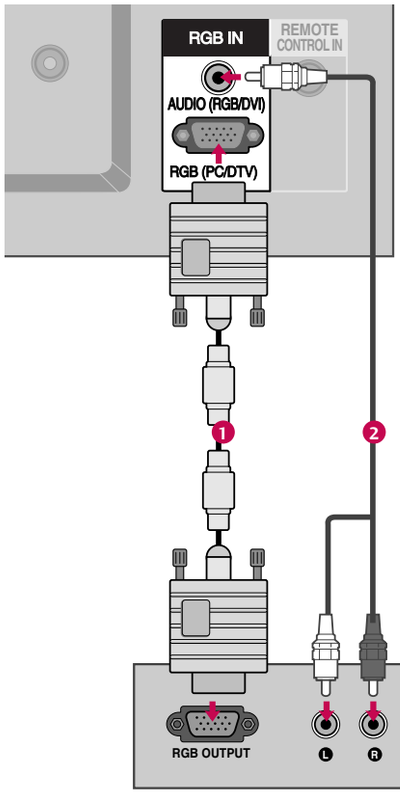
- Turn on the digital set-top box.
  (Refer to the owner's manual for the digital set-top box.)
- Select **COMPONENT 1** input source with using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN2** input, select **COMPONENT 2** input source.

Signal	Component 1/2	RGB-DTV	HDMI1/DVI, HDMI2
480i	Yes	No	No
480p	Yes	Yes	Yes
720p	Yes	Yes	Yes
1080i	Yes	Yes	Yes
1080p (@ 24, 30, 60)	24p/30p	24p/30p	Yes

* In some resolution (1080p), the PIP, Twin Picture, TV Guide, and some other functions are not available.

CONNECTIONS & SETUP

When connecting D-sub 15pin cable



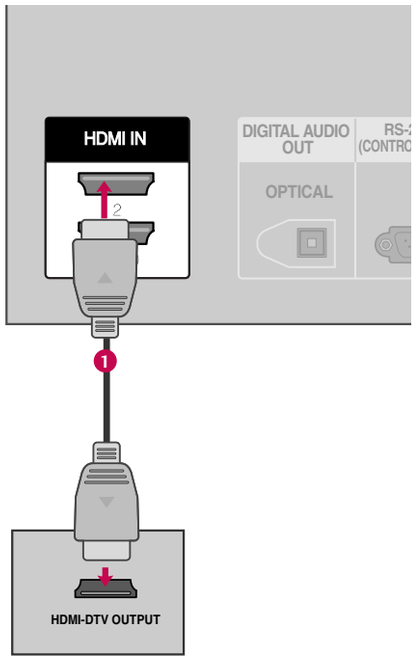
1. How to connect

1. Connect the RGB output of the digital set-top box to the **RGB (PC/DTV)** jack on the set.
2. Connect the audio outputs of the set-top box to the **AUDIO (RGB/DVI)** jack on the set.

2. How to use

- Turn on the digital set-top box.
  (Refer to the owner's manual for the digital set-top box.)
- Select **RGB-DTV** input source with using the **INPUT** button on the remote control.

When connecting HDMI cable



1. How to connect

1. Connect the digital set-top box to **HDMI IN 1(DVI)** or **2** jack on the set.
2. No separated audio connection is necessary.

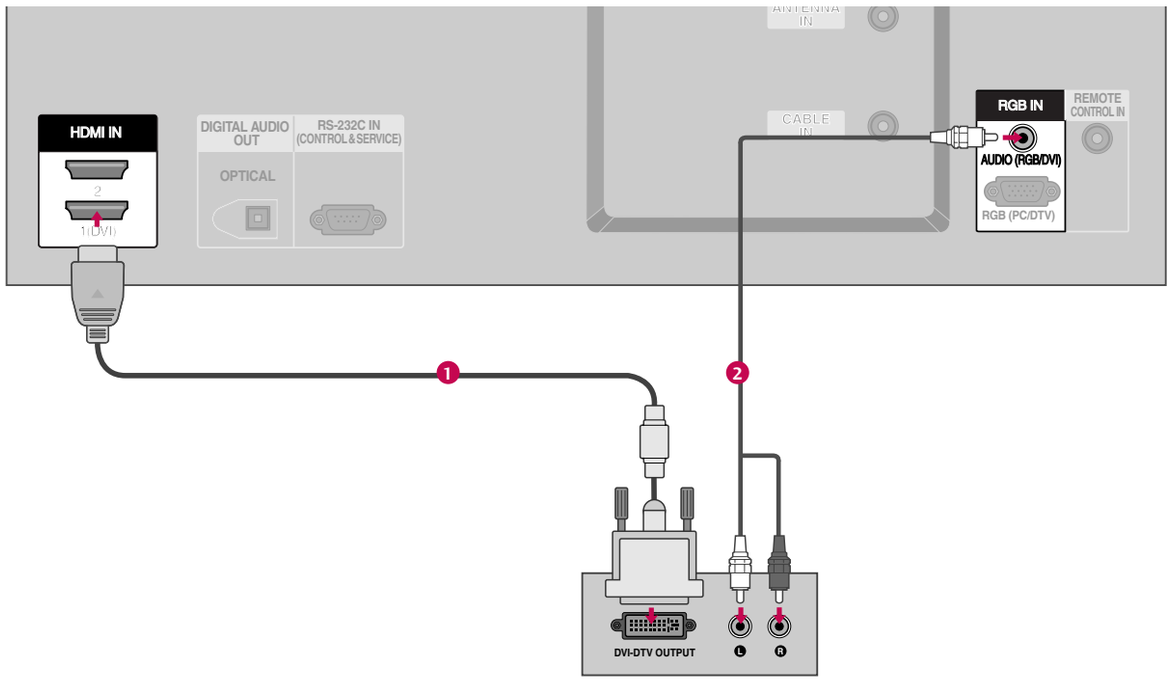
2. How to use

- Turn on the digital set-top box.
  (Refer to the owner's manual for the digital set-top box.)
- Select **HDMI1/DVI** or **HDMI2** input source with using the **INPUT** button on the remote control.

NOTE

- If the digital set-top box supports Auto HDMI function, the output resolution of the source device will be automatically set to 1280x720p.
- If the digital set-top box player does not support Auto HDMI, you need to set the output resolution appropriately.
  To get the best picture quality, adjust the output resolution of the source device to 1280x720p.

When connecting HDMI to DVI cable



1. How to connect

1. Connect the DVI output of the digital set-top box to the **HDMI IN 1 (DVI)** jack on the set.
2. Connect the audio output of the digital set-top box to the **AUDIO(RGB/DVI)** jack on the set.

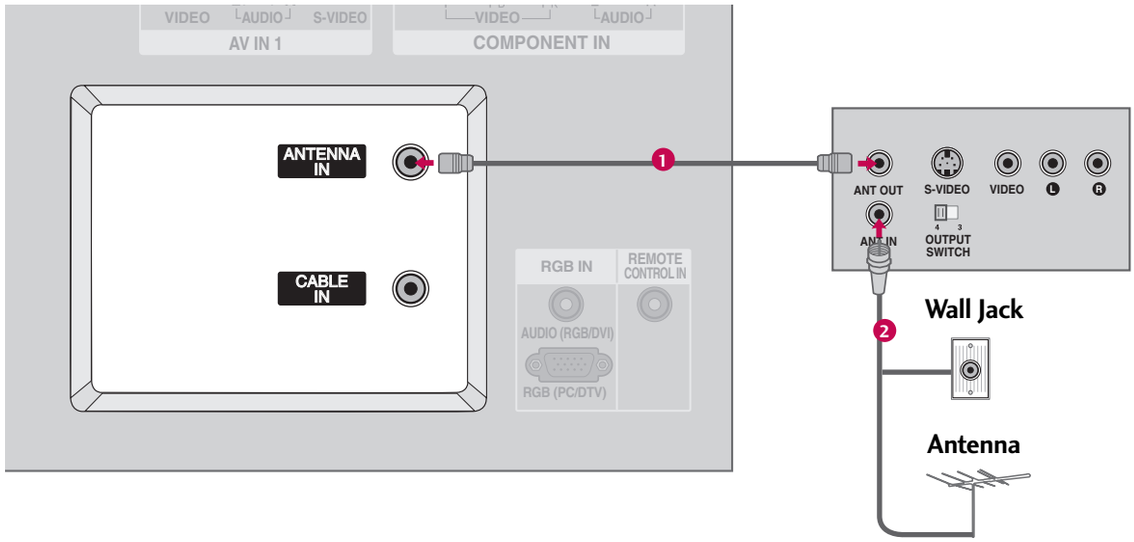
2. How to use

- Turn on the digital set-top box. (Refer to the owner's manual for the digital set-top box.)
- Select **HDMI1/DVI** input source with using the **INPUT** button on the remote control.

VCR SETUP

- To avoid picture noise (interference), leave an adequate distance between the VCR and TV
- If a fixed image is displayed on the screen for a long time, the image may become imprinted on the screen and remain visible. This phenomenon is common to all manufactures and in consequence the manufactures warranty does not cover the product bearing this phenomenon.

When connecting with an antenna



1. How to connect

1. Connect the RF antenna out socket of the VCR to the **Antenna** socket on the set.
2. Connect the antenna cable to the RF antenna in socket of the VCR.

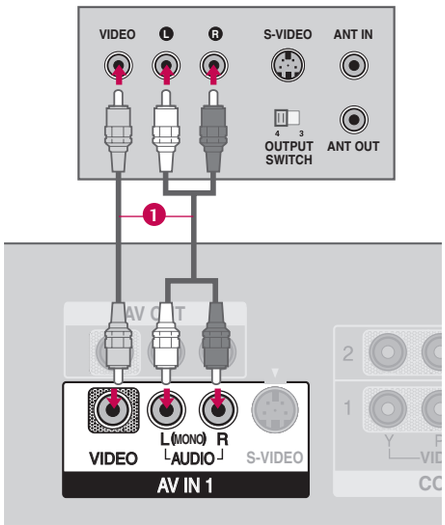
2. How to use

- Set VCR output switch to 3 or 4 and then tune TV to the same channel number.
- Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)

When connecting with a RCA cable

1. How to connect

1. Connect the **AUDIO/VIDEO** jacks between TV and VCR. Match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red)



2. How to use

- Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
- Select **AV1** input source with using the **INPUT** button on the remote control.
- If connected to **AV IN2**, select **AV2** input source.

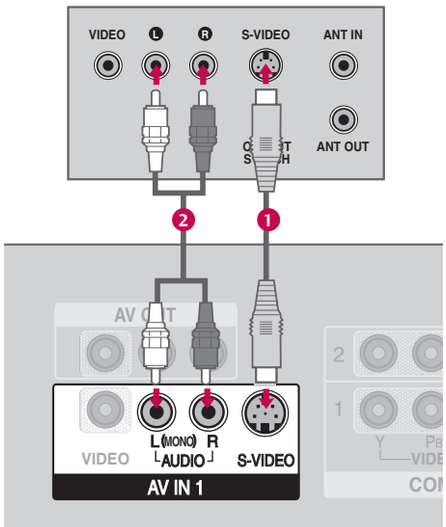
NOTE

▶ If you have a mono VCR, connect the audio cable from the VCR to the **AUDIO L/MONO** jack of the set.

When connecting with an S-Video cable

1. How to connect

1. Connect the S-VIDEO output of the VCR to the **S-VIDEO** input on the set.
2. Connect the audio outputs of the VCR to the **AUDIO** input jacks on the set.



2. How to use

- Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
- Select **AV1** input source with using the **INPUT** button on the remote control.
- If connected to **AV IN2**, select **AV2** input source.

NOTE

▶ The picture quality is improved: compared to normal composite (RCA cable) input.

CAUTION

▶ Do not connect to both Video and S-Video at the same time. In the event that you connect both Video and the S-Video cables, only the S-Video will work.

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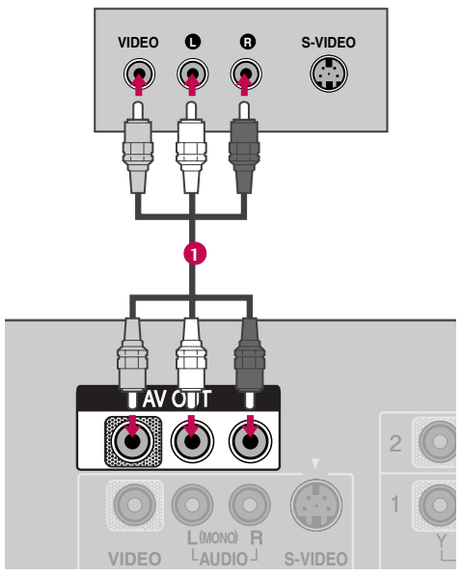
AV OUT SETUP

The TV has a special signal output capability which allows you to hook up the second TV or monitor.

1. How to connect

1. Connect the second TV or monitor to the TV's **AV OUT** jacks.
2. See the Operating Manual of the second TV or monitor for further details regarding that device's input settings.



NOTE

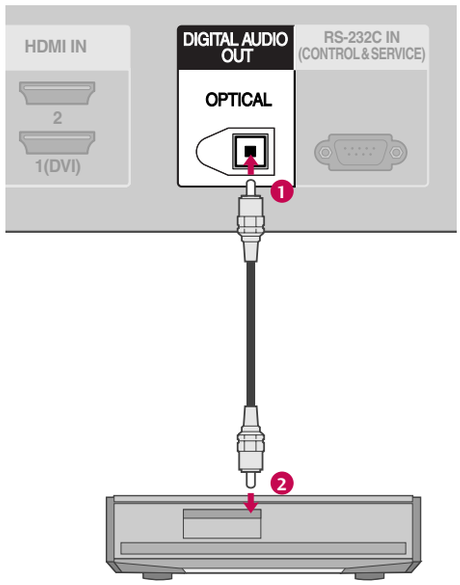
- Component1-2, RGB-PC/RGB-DTV, HDMI1/DVI, HDMI2, DTV input sources cannot be used for AV out.
- We recommend to use the AV OUT jacks for VCR recording.

DIGITAL AUDIO OUTPUT

Send the TV's audio to external audio equipment via the Digital Audio Output (Optical) port.

1. How to connect

1. Connect one end of an optical cable to the TV Digital Audio (Optical) Output port.
2. Connect the other end of the optical cable to the digital audio (optical) input on the audio equipment.
3. Set the "TV Speaker option - Off" in the AUDIO menu. (▶ **p.84**). See the external audio equipment instruction manual for operation.



NOTE

▶ When connecting with external audio equipments, such as amplifiers or speakers, please turn the TV speakers off. (▶ **p.84**)

CAUTION

▶ Do not look into the optical output port. Looking at the laser beam may damage your vision.

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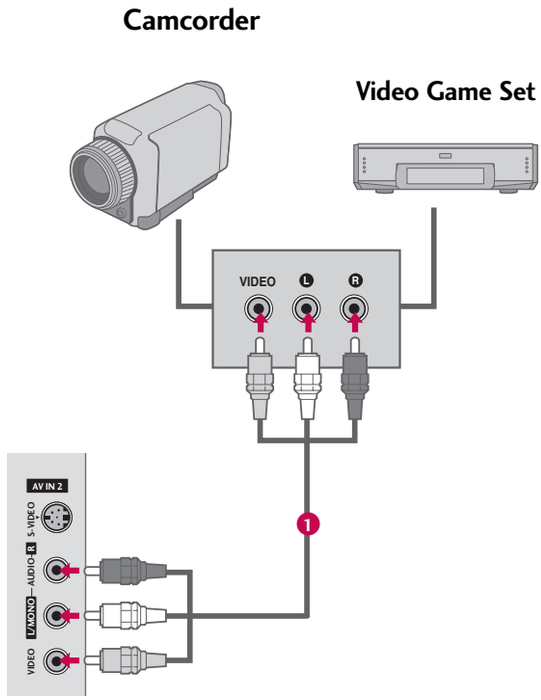
EXTERNAL A/V SOURCE SETUP

1. How to connect

1 Connect the **AUDIO/VIDEO** jacks between TV and external equipment. Match the jack colors.
(Video = yellow, Audio Left = white, and Audio Right = red)

2. How to use

- Select **AV1** input source with using the **INPUT** button on the remote control.
- If connected to **AV IN2** input, select **AV2** input source.
- Operate the corresponding external equipment.

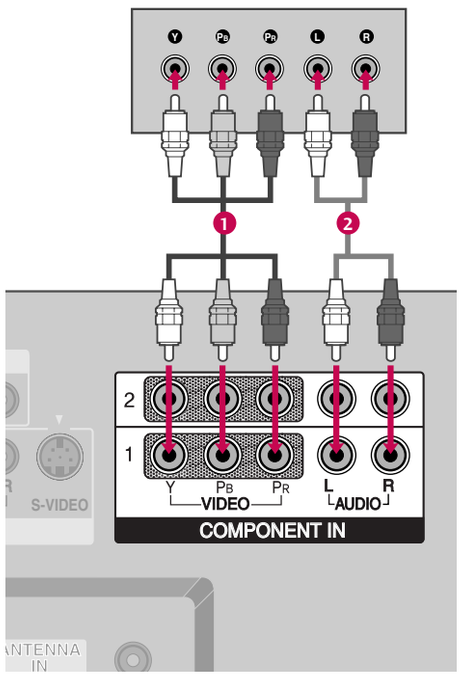


DVD SETUP

When connecting Component cable

1. How to connect

1. Connect the video outputs (Y, PB, PR) of the DVD to the **COMPONENT IN VIDEO1** jacks on the set. Match the jack colors (Y = green, PB = blue, and PR = red).
2. Connect the audio outputs of the DVD to the **COMPONENT IN AUDIO1** jacks on the set.



2. How to use

- Turn on the DVD player, insert a DVD.
- Select **COMPONENT 1** input source with using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN 2** input, select **COMPONENT 2** input source.
- Refer to the DVD player's manual for operating instructions.

Component Input ports

To get better picture quality, connect a DVD player to the component input ports as shown below.

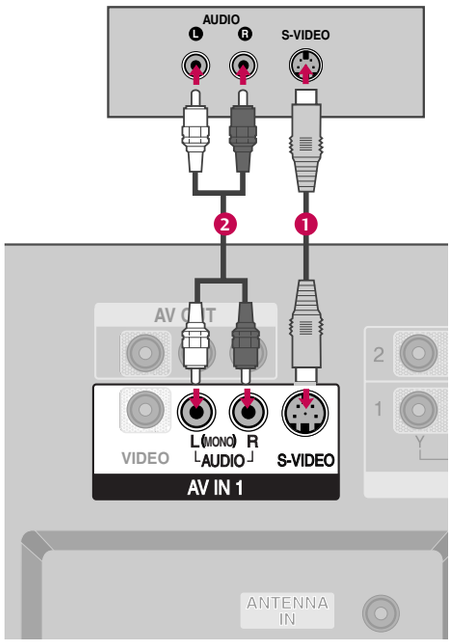
Component ports on the TV	Y	PB	PR
Video output ports on DVD player	Y	PB	PR
	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	Pb	Pr

CONNECTIONS & SETUP

When connecting with an S-Video cable

1. How to connect

1. Connect the S-VIDEO output of the DVD to the **S-VIDEO** input on the set.
2. Connect the audio outputs of the DVD to the **AUDIO** input jacks on the set.



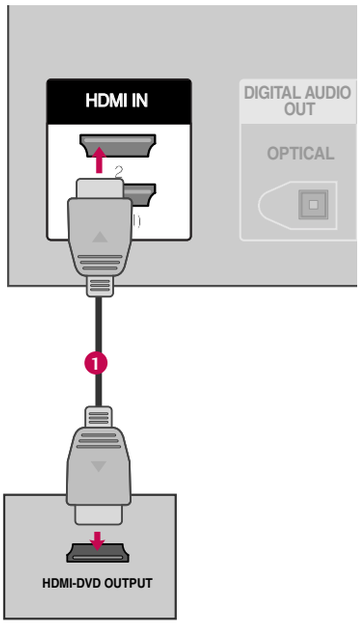
2. How to use

- Turn on the DVD player, insert a DVD.
- Select **AV1** input source with using the **INPUT** button on the remote control.
- If connected to **AV IN2**, select **AV2** input source.
- Refer to the DVD player's manual for operating instructions.

When connecting HDMI cable

1. How to connect

1. Connect the HDMI output of the DVD to the **HDMI IN 1 (DVI)** or **2** jack on the set.
2. No separated audio connection is necessary.



2. How to use

- Select **HDMI1/DVI** or **HDMI2** input source with using the **INPUT** button on the remote control.
- Refer to the DVD player's manual for operating instructions.

NOTE

- If the DVD supports Auto HDMI function, the DVD output resolution will be automatically set to 1280x720p.
- If the DVD does not support Auto HDMI, you need to set the output resolution appropriately.

  To get the best picture quality, adjust the output resolution of the DVD to 1280x720p.

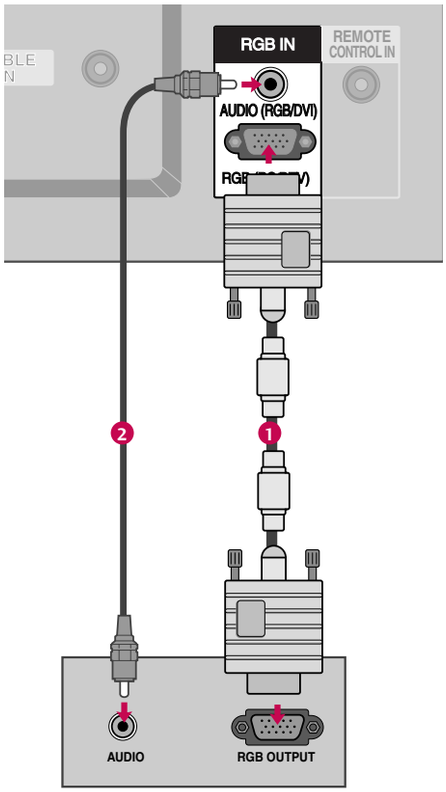
PC SETUP

This TV provides Plug and Play capability, meaning that the PC adjusts automatically to the TV's settings. The TV perceives 640x480, 60Hz as DTV 480p based on the PC graphic card. If necessary, change the screen scanning rate for the graphic card accordingly.

When connecting D-sub 15pin cable

1. How to connect

1. Connect the RGB output of the PC to the **RGB (PC/DTV)** jack on the set.
2. Connect the PC audio output to the **AUDIO (RGB/DVI)** jack on the set.



2. How to use

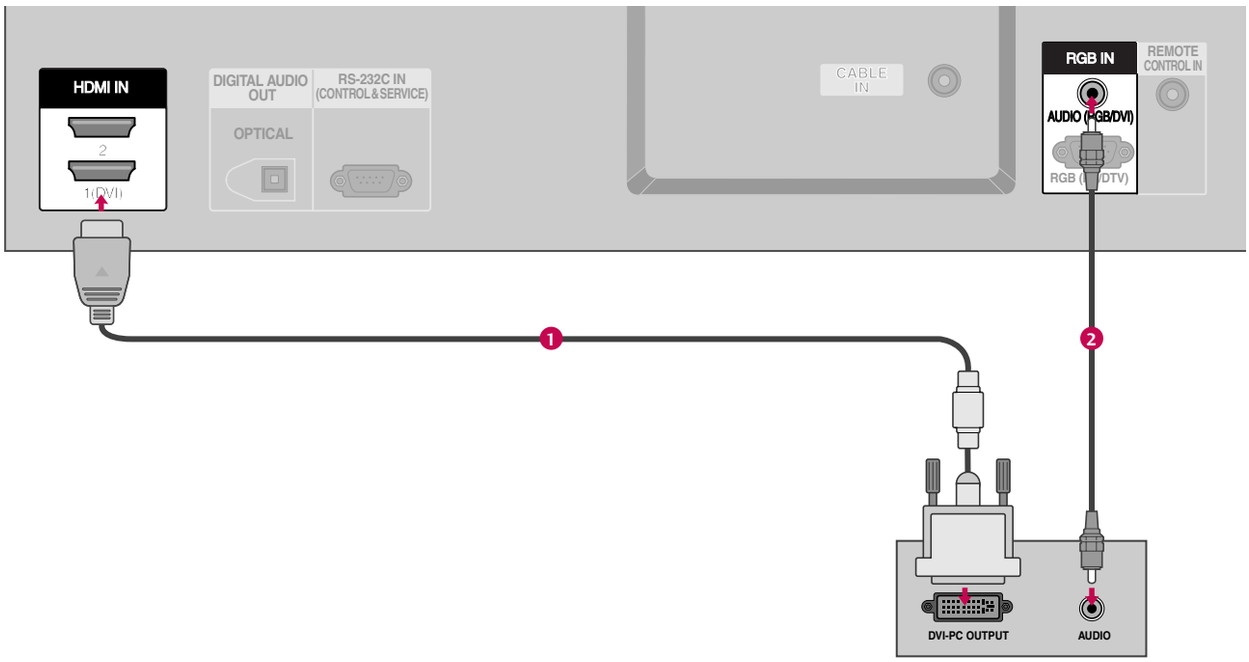
- Turn on the PC and the set.
- Select **RGB-PC** input source in main input option of SETUP menu. (▶ p.67)
- Once you select **RGB-PC** in main input option of **SETUP** menu, **INPUT** button is also available for this purpose.

NOTE

▶ Check the image on your TV. There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the VIDEO menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.

CONNECTIONS & SETUP

When connecting HDMI to DVI cable



1. How to connect

1. Connect the DVI output of the PC to the **HDMI IN 1 (DVI)** jack on the set.
2. Connect the PC audio output to the **AUDIO (RGB/DVI)** jack on the set.

2. How to use

- Turn on the PC and the set
- Select **HDMI1/DVI** input source with using the **INPUT** button on the remote control.

NOTE

- HDMI2 source does not support DVI source.
- If the PC has a DVI output and no HDMI output, a separated audio connection is necessary.
- If the PC does not support Auto DVI, you need to set the output resolution appropriately. To get the best picture quality, adjust the output resolution of PC graphics card's output resolution to 1024x768, 60Hz.

NOTES

- To get the best picture quality, adjust the RGB-PC to 1360x768, 60Hz.
- To get the best picture quality, adjust the HDMI to 1920x1080, 60Hz.
- Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.
- When Source Devices are connected with HDMI/DVI Input, the output PC Resolution (VGA, SVGA, XGA), Position and Size may not fit on the Screen. As shown in the picture, press the ADJUST button to adjust the screen Position of the TV SET and contact a PC graphics card service center.
- When Source Devices connected with HDMI/DVI Input, output TV SET Resolution (480p, 720p, 1080i) and TV SET Display fit EIA/CEA-861-B Specification to Screen. If not, refer to the Manual of HDMI/DVI Source Devices or contact your service center.
- If the HDMI/DVI Source Device is not connected to the Cable or if there is a poor cable connection, "No signal" is displayed in the HDMI/DVI Input. In this case, that Video Resolution is not supported. If "Invalid Format" is displayed, refer to the Source Device manual or contact your service center.
- Avoid keeping a fixed image on the screen for a long period of time. The fixed image may become permanently imprinted on the screen.
- The synchronization input form for Horizontal and Vertical frequencies is separate.
- If you select HDMI1/DVI, HDMI2 input source in main input option of SETUP menu and set HDMI-PC 1920 x 1080 in your PC format, you can get best picture quality with matching 1:1 pixel.

Supported Display Specifications (RGB/HDMI-PC)

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
640x350	31.468	70.09
720x400	31.469	70.08
640x480	31.469 37.861 37.500	59.94 72.80 75.00
800x600	35.156 37.879 48.077 46.875	56.25 60.31 72.18 75.00
1024x768	48.363 56.476 60.023	60.00 70.06 75.02
1280x768	47.776	59.870
1360x768	47.720	59.799
1920x1080	67.500	60.00

* RGB-PC mode only: 640x350, 720X400
* HDMI-PC mode only: 1280x768, 1920x1080

Supported Display Specifications (RGB/HDMI-DTV)

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720x480	31.47 31.47	60 59.94
1280x720	45.00 44.96	60.00 59.94
1920x1080	33.75 33.72	60.00 59.94

CONNECTIONS & SETUP

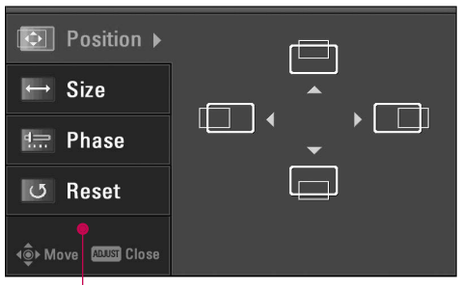
Screen Setup for PC mode

Overview

When RGB connect to PC output and select the RGB-PC in Main Input, this function is used.

When HDMI IN 1 (DVI) connect to PC output and select HDMI1/DVI input, this function is used.

Adjustment for screen Position, Size, Phase, Reset



1 2 3

1. Press the **ADJUST** button and then use ▲ or ▼ button to select **Position**, **Size**, or **Phase**.
2. Press the **ENTER** button and then use ▲ ▼ ◄ ► button to make appropriate adjustments.
   - The **Phase** adjustment range is **-16 ~ +16**.
     In HDMI-PC/RGB-DTV mode, Phase is not available.
   - The **Size** adjustment range is **-30 ~ +30**.
     In HDMI-PC/RGB-DTV mode, Size is not available.
3. Press the **ENTER** button.

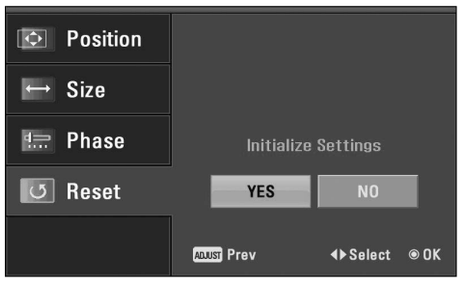
Position This function is to adjust picture to left/right and up/down as you prefer.

Size This function is to minimize any vertical bars or stripes visible on the screen background. And the horizontal screen size will also change.

Phase This function allows you to remove any horizontal noise and clear or sharpen the image of characters.

Initializing (Reset to original factory values)

To initialize the adjusted values

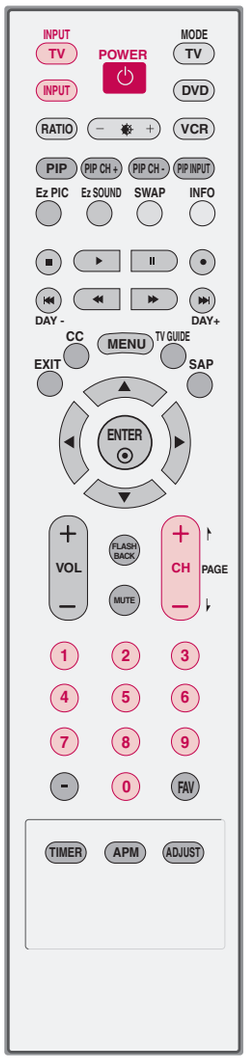


1 2 3

1. Press the **ADJUST** button and then use ▲ or ▼ button to select **Reset**.
2. Press the **ENTER** button and then use ◄ or ► button to select **Yes**.
3. Press the **ENTER** button.

BASIC OPERATION

TURNING THE TV ON



1 First, connect power cord correctly.
At this moment, the TV switches to standby mode.
- In standby mode, press the ⏻/I , **INPUT**, **CH (▲ or ▼)** button on the TV or press the **POWER**, **INPUT**, **TV INPUT**, **CH(+ or -)**, **Number (0~9)** button on the remote control.

2 Select the viewing source by using the **INPUT** button on the remote control.
- This TV is programmed to remember which mode it was last set to, even if you turn the TV off.

3 When finished using the TV, press the **POWER** button on the remote control. The TV reverts to standby mode.

NOTE

- If you intend to be away on vacation, disconnect the power plug from the wall power outlet.
- After turning on the TV, it could take up to a week for the TV Guide On Screen system to receive full listings data.
- When the TV is turned on, the indicator will blink white before the picture is seen.

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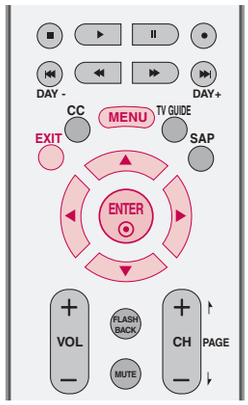
ON-SCREEN MENUS LANGUAGE SELECTION

The menus can be shown on the screen in the selected language.
First select your language.

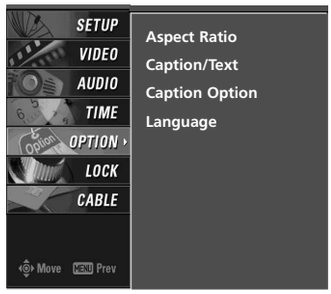


1. Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

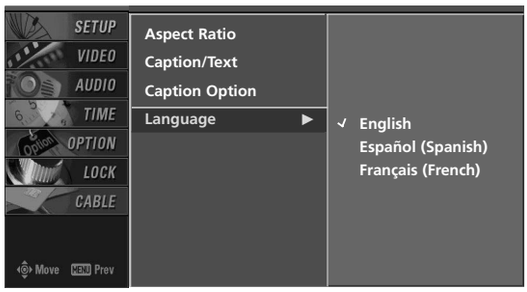
2. Press the ► button and then use ▲ or ▼ button to select **Language.**

3. Press the ► button and then use ▲ or ▼ button to select your desired language.
   From this point on, the on-screen menus will be shown in the selected language.

4. Press the **EXIT** button to return to TV viewing or press **MENU** to return to the previous menu.

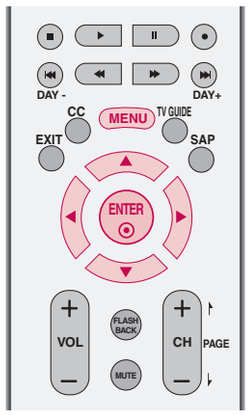


1



2 3

INITIAL CHANNEL SEARCH (EZ SCAN)



This feature automatically finds all channels available through the antenna or cable input and stores them in memory on the channel list.

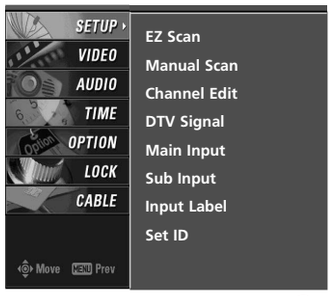
Run EZ Scan again after any Antenna/Cable connection changes.

Note: A password is required to gain access to EZ Scan menu if the Lock System is turned on.

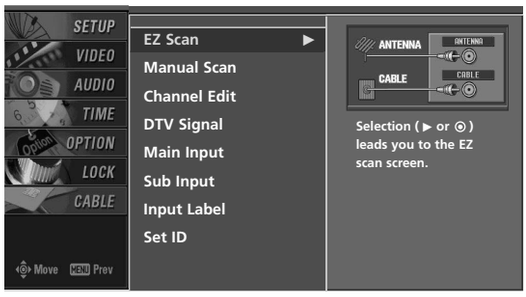
1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **EZ Scan**.

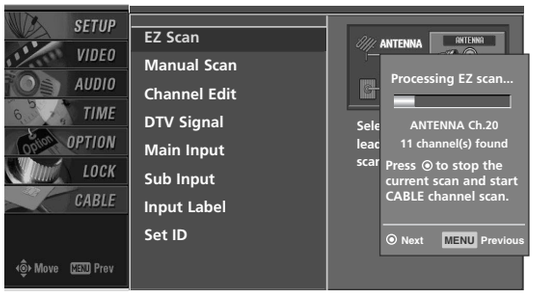
3. Press the **ENTER** button to begin the channel search. Allow EZ Scan to complete the channel search cycle for ANTENNA and CABLE.



1



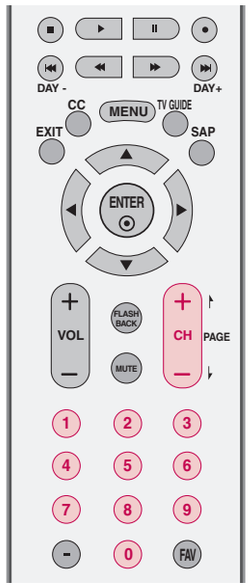
2



3

BASIC OPERATION

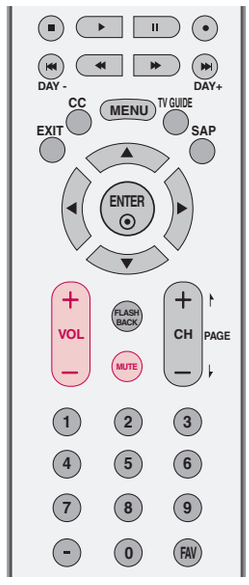
CHANNEL SELECTION



1. Press the **CH +/-** or **NUMBER** buttons to select a channel number.

VOLUME ADJUSTMENT

Adjust the volume to suit your personal preference.



1. Press the **VOL +/-** button to adjust the volume.
2. If you want to switch the sound off, press the **MUTE** button.
3. You can cancel the Mute function by pressing the **MUTE** or **VOL +/-** button.

TV GUIDE ON SCREEN™ SYSTEM

TV GUIDE ON SCREEN SETUP

The TV Guide On Screen system uses Setup information to provide you with show listings and lineups in your area—which are updated several times a day.

Once you set up the TV according to manufacturer's instructions, you are ready to set up the TV Guide On Screen system.

NOTE

▶ The TV Guide On Screen system provides listings for cable-ready, and digital cable services as well as over-the-air broadcast. It does not provide listings for satellite services.

Ready to setup

1 Welcome Screen

The TV Guide On Screen system's Welcome Screen appears:

- By pressing the **TV GUIDE** button
- When you power On your TV if you previously skipped "Set up TV Guide On Screen now" on the Reminder Screen.

The Welcome Screen highlights features of the TV Guide On Screen system.

Press the **ENTER** button to begin Setup.

TV GUIDE
Welcome to Your TV Guide On Screen System!
Key Features:
• Interactive TV program listings and information
• One-touch recording
• Search for programs by category or by title
• And much more!
Finding Out What's On TV Has Never Been Easier...
Press the ENTER key on your TV remote to begin setup.

1

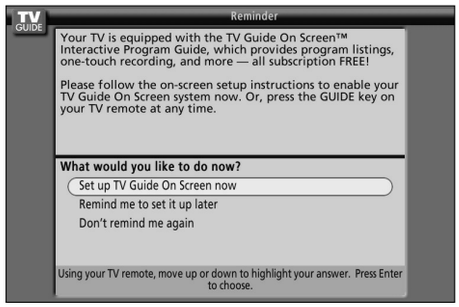
2 Reminder Screen

The TV Guide On Screen system's Reminder Screen appears:

- After initial TV set up.
- If you power Off the TV and then power it back On.

To make a selection, use the ▲ or ▼ button to highlight an option, and press the **ENTER** button.

- "Set up TV Guide On Screen now", displays the Welcome Screen. Press the **ENTER** button to begin Setup.
- "Remind me to set up later" returns you to watching TV.
- "Don't remind me again" returns you to watching TV and stops the reminder screen from appearing upon power On.


TV GUIDE
Reminder
Your TV is equipped with the TV Guide On Screen™ Interactive Program Guide, which provides program listings, one-touch recording, and more — all subscription FREE!
Please follow the on-screen setup instructions to enable your TV Guide On Screen system now. Or, press the GUIDE key on your TV remote at any time.
What would you like to do now?
Set up TV Guide On Screen now
Remind me to set it up later
Don't remind me again
Using your TV remote, move up or down to highlight your answer. Press Enter to choose.

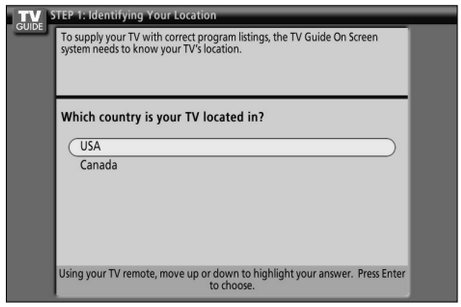
2

TV GUIDE ON SCREEN™ SYSTEM

Using TV Guide

1 Screen 1: Country

- This screen asks you the location of your TV.
- Use the ▲ or ▼ button to highlight a country.
- Press the **ENTER** button to display Screen 2.

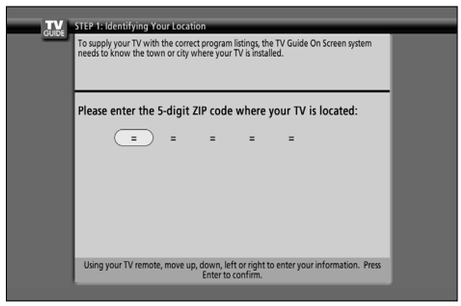

TV GUIDE
STEP 1: Identifying Your Location
To supply your TV with correct program listings, the TV Guide On Screen system needs to know your TV's location.
Which country is your TV located in?
USA
Canada
Using your TV remote, move up or down to highlight your answer. Press Enter to choose.

1

2 Screen 2: Enter ZIP or Postal Code

Option 1

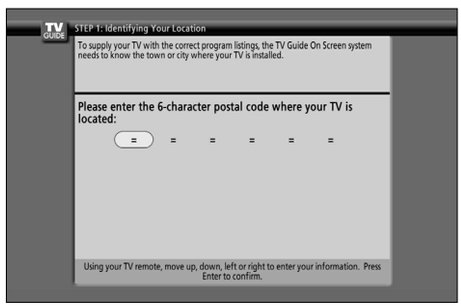
- If you selected USA in Screen 1, you see the ZIP Code screen.
- You input numbers by either pressing the number keys on the remote or using the ▲ or ▼ button to display a number, and then the ◄ or ► button to move to another field.
- Press the **ENTER** button to display Screen 3.


TV GUIDE
STEP 1: Identifying Your Location
To supply your TV with the correct program listings, the TV Guide On Screen system needs to know the town or city where your TV is installed.
Please enter the 5-digit ZIP code where your TV is located:
Using your TV remote, move up, down, left or right to enter your information. Press Enter to confirm.

2

Option 2

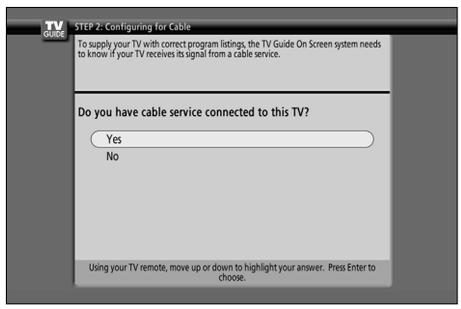
- If you selected Canada in Screen 1, you see the Postal Code screen.
- You input characters by using the ▲ or ▼ button, and then the ◄ or ► button to move to another field.
- Press the **ENTER** button to display Screen 3.


TV GUIDE
STEP 1: Identifying Your Location
To supply your TV with the correct program listings, the TV Guide On Screen system needs to know the town or city where your TV is installed.
Please enter the 6-character postal code where your TV is located:
Using your TV remote, move up, down, left or right to enter your information. Press Enter to confirm.

2

3 Screen 3: Do you have Cable Service connected?

- If you select Yes, you see Screen 4.
- If you select No, you see Screen 4.


TV GUIDE
STEP 2: Configuring for Cable
To supply your TV with correct program listings, the TV Guide On Screen system needs to know if your TV receives its signal from a cable service.
Do you have cable service connected to this TV?
Yes
No
Using your TV remote, move up or down to highlight your answer. Press Enter to choose.

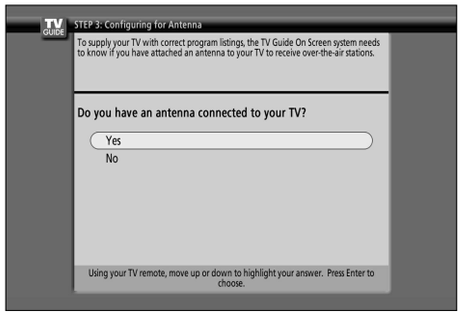
3

4 Screen 4: Do you have an antenna connected?

- If you select Yes, you see Screen 5.
- If you select No, you see Screen 5.

NOTE

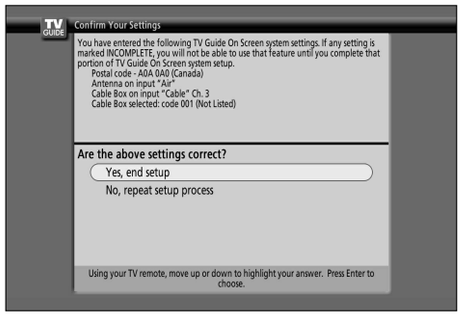
- If you selected No in Screen 3 then you must select Yes in this screen to receive a channel lineup and listings.


TV GUIDE
STEP 3: Configuring for Antenna
To supply your TV with correct program listings, the TV Guide On Screen system needs to know if you have attached an antenna to your TV to receive over-the-air stations.
Do you have an antenna connected to your TV?
Yes
No
Using your TV remote, move up or down to highlight your answer. Press Enter to choose.

4

5 Screen 5: Are your basic settings correct?

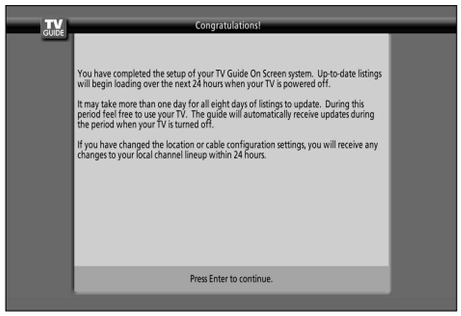
- If you select Yes, you see Screen 6.
- If you select No, you see Screen 1.


TV GUIDE
Confirm Your Settings
You have entered the following TV Guide On Screen system settings. If any setting is marked INCOMPLETE, you will not be able to use that feature until you complete that portion of TV Guide On Screen system setup.
Postal code - A0A 0A0 (Canada)
Antenna on input "Air"
Cable Box on input "Cable" Ch. 3
Cable Box selected: code 001 (Not Listed)
Are the above settings correct?
Yes, end setup
No, repeat setup process
Using your TV remote, move up or down to highlight your answer. Press Enter to choose.

5

6 Screen 6: Congratulations

- Press the **ENTER** button to display Screen 7.


TV GUIDE
Congratulations!
You have completed the setup of your TV Guide On Screen system. Up-to-date listings will begin loading over the next 24 hours when your TV is powered off.
It may take more than one day for all eight days of listings to update. During this period feel free to use your TV. The guide will automatically receive updates during the period when your TV is turned off.
If you have changed the location or cable configuration settings, you will receive any changes to your local channel lineup within 24 hours.
Press Enter to continue.

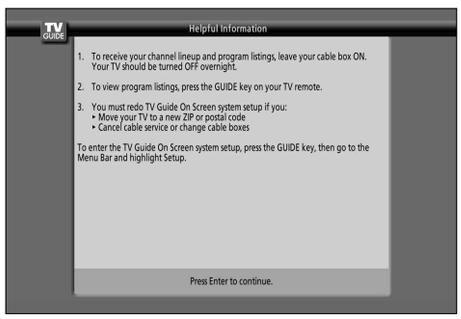
6

7 Screen 7: Helpful Information

- This screen tells you valuable information on using your Guide.
- Press the **ENTER** button to watch TV.

NOTE

- The TV Guide On Screen system receives program listings data through your cable or over-the-air video signal. In order to receive regular program listings, please remember to do the following:
  1. Turn OFF your TV when it is not in use. (Do not unplug the power cord.)
  2. If you have more than one Cable system in your area, you may be prompted to select which Cable system's program data to download. If so prompted, please follow the on-screen instructions.
- Program listings are updated several times a day. It may take up to 24 hours to begin to receive any TV program listings. It may take up to one week to receive all eight days of TV program listings.


TV GUIDE
Helpful Information
1. To receive your channel lineup and program listings, leave your cable box ON. Your TV should be turned OFF overnight.
2. To view program listings, press the GUIDE key on your TV remote.
3. You must redo TV Guide On Screen system setup if you:
‣ Move your TV to a new ZIP or postal code
‣ Cancel cable service or change cable boxes
To enter the TV Guide On Screen system setup, press the GUIDE key, then go to the Menu Bar and highlight Setup.
Press Enter to continue.

7

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TV GUIDE ON SCREEN™ FEATURE

Overview

Your new TV contains the TV Guide On Screen Interactive Program Guide.
The TV Guide On Screen system has features that help you get the most out of your viewing experience.

TV Guide On Screen Overview

The TV Guide On Screen system has the following features:

- Eight days of show listings (today plus seven days).
- Icons that indicate show rating, stereo, HDTV, new episode, etc.
- Intuitive up/down/left/right navigation using your remote control.
- Schedule show Reminders.
- Search shows by category (e.g., Movies, Sports, Children, etc.).
- Search for shows based on keywords or alphabetically by title.
- Direct tuning to a channel.
- Streamlined System Setup and default setting options.
- Channel lineup customization.
- Help screens while in the TV Guide On Screen system.

Screen Components

The screens displayed in the TV Guide On Screen system share many of the same components, as shown in the following figure:

1. Video Window - Displays TV video while The TV Guide On Screen system is displayed.
2. Service Bar - Provides access to the 4 main Guide Services.
3. Current Service Label - Indented to indicate current Service displayed.
4. Tile - Displays show title.
5. Highlight - Indicates an active tile.
6. INFO Box - Provides information for a highlighted item.
7. INFO Button - Indicates you can cycle through the various Info Box sizes.
8. Channel Logo - Identifies network.
9. Remind Icons - Indicates a show is set as a Reminder.
10. Panel Ad - Location where show- or product-specific information appears (and also where Panel Menu appears).

TV GUIDE ON SCREEN™ SYSTEM

Panel Menu

- A Panel Menu appears when the **MENU** button is pressed on a highlighted tile and additional options are available. It also appears when you press the **ENTER** button on a show starting in the future.
- When a Panel Menu appears, the highlighted tile changes color to indicate the Panel Menu relates to this tile.
- The Panel Menu displays below the Video Window.
- Help is available for a displayed Panel Menu by pressing the **INFO** button.
- The ▲ or ▼ button move between the options within the Panel Menu.
- The left and right arrows move to adjacent options unless the highlight is on an odometer, where these arrows change the odometer choice.
- Pressing the **ENTER** button from an odometer or number entry box moves the highlight to the default command button of that Panel Menu, for example, Schedule Reminder.
- Pressing the **ENTER** button from a highlighted command button executes the action and closes the Panel Menu (e.g., Schedule Reminder, Cancel).
- Select Cancel to cancel any changes and press the **ENTER** button to close the menu.
- Pressing the **MENU** button is a shortcut to Cancel. Press the **MENU** button to cancel any changes and close the menu.
- If a Panel Menu contains more menu options than can be displayed on a single screen, the more ▼ text appears at the bottom of the menu. Simply scroll down to access additional options.

Main Services

Listings

Access Listings by pressing the TV GUIDE button on your remote or on the front panel of your TV.

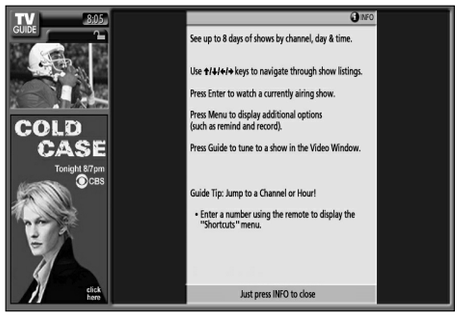
Listings is always the first Service displayed in the Guide.

With Listings highlighted, press the INFO button to display a Help screen. Press the INFO button again to close the screen.

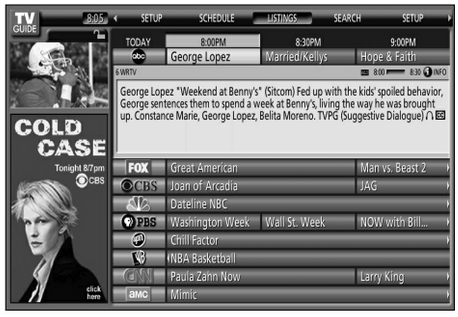
1 Use the ▲ ▼ ◄ ► button to move the highlight within Listings to:

- View 8 days of show listings
- Read show descriptions
- Tune directly to a show currently airing
- Set a show to Remind
- Lock and Unlock the Video Window
- Access Panel and Channel Ads

1


TV GUIDE
INFO
See up to 8 days of shows by channel, day & time.
Use ↑/↓/←/→ keys to navigate through show listings.
Press Enter to watch a currently airing show.
Press Menu to display additional options (such as remind and record).
Press Guide to tune to a show in the Video Window.
Guide Tip: Jump to a Channel or Hour!
• Enter a number using the remote to display the "Shortcuts" menu.
Just press INFO to close
COLD CASE
Tonight 8/7pm CBS

1



1

NOTE

- There may be times when the TV Guide On Screen system could display partial or no program listings. The reasons for this include:
  - Program schedule information was not provided to TV Guide On Screen.
  - The transmission of the program listings was interrupted.
  - The phrase "No Listings" will be replaced with program information during the next transmission, which should occur within the next 24 hours.
  - Please remember to turn off your TV when not in use in order to receive program listings.

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Search

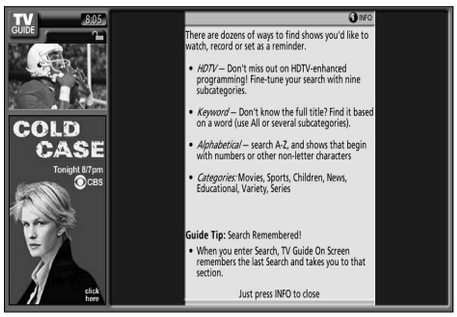
Search lets you find shows alphabetically, by category (Movies, Sports, Children, Educational, News, Variety, Series, HDTV) or by Keyword.

With Search highlighted, press the INFO button to display a Help screen. Press the INFO button again to close the screen.

Category Search Example: Movies

1 From Search, use the ▼ button to highlight Movies.

1


TV GUIDE
8:05
INFO
There are dozens of ways to find shows you'd like to watch, record or set as a reminder.
• HDTV – Don't miss out on HDTV-enhanced programming! Fine-tune your search with nine subcategories.
• Keyword – Don't know the full title? Find it based on a word (use All or several subcategories).
• Alphabetical – search A-Z, and shows that begin with numbers or other non-letter characters
• Categories: Movies, Sports, Children, News, Educational, Variety, Series
Guide Tip: Search Remembered!
• When you enter Search, TV Guide On Screen remembers the last Search and takes you to that section.
Just press INFO to close
COLD CASE
Tonight 8/7pm CBS
click here

1

1

2 Use the ▼ button to highlight a subcategory (for example, All).

3 Press the **ENTER** button to display a list of all Movies, organized by date and time.

4 Highlight a show and press the **ENTER** button to watch (if on now) or the **MENU** button to display the Episode Options menu.

5 You can choose to set a reminder, or tune to the channel.

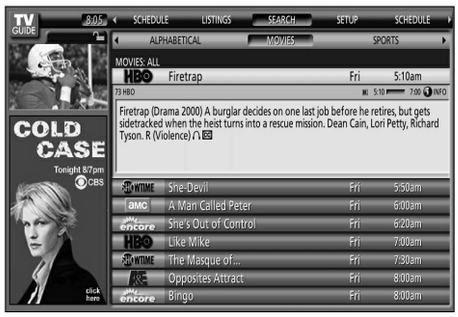
- ▶ Go to Service Bar - Closes the menu, changes no information, and returns to the Search Service Bar.
- ▶ Tune to Channel - Exits the Guide and tunes to the channel of the highlighted show (show airs in the future).

NOTE

This option reads Watch Now if the show is currently airing.

- ▶ Set Recording - This TV doesn't support recording feature.
- ▶ Set Reminder - Displays the Remind Options menu, from which you can set frequency, when, automatically power On, and auto-tune the TV.
- ▶ Cancel - Closes the menu, changes no information, and returns to the highlighted show.

2 3



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5

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Keyword Search

Keyword search lets you enter a word(s) to look for a particular show by category or for every show title that matches.

1. Highlight the Keyword navigation label, and press the **ENTER** button to display the Keyword Search menu.
2. Highlight New Search, and press the **ENTER** button.
3. The Search Options menu is displayed.
4. Highlight Category, and use the ◄ or ► button to select a category to search (e.g. All, HDTV, Children, Sports, etc.). When finished, use the ▼ button to highlight Enter Keyword.
5. Highlight Enter Keyword, and press the **ENTER** button. The keyboard is displayed.
6. Use the ▲ ▼ ◄ ► button to highlight a character, and press the **ENTER** button to display it. When complete, highlight Done and press the **ENTER** button.

1 2

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6

7 A list of all matching shows for that keyword is displayed.

You can highlight a show, and press the **ENTER** button to display all airings. You can then highlight a specific listing and press the **ENTER** button to watch (if On now) or the **MENU** button to display the Episode Options menu.

From the Episode Options menu, choose to set a reminder, or tune to the channel, as previously described.

The TV Guide On Screen system stores all the keywords you create. To edit or delete a keyword, highlight the keyword and press the **MENU** button. A Search Options menu is displayed.

7

7

- Go to Service Bar - Closes the menu, changes no information, and returns to the Search Service Bar.
- Edit Search - Displays the keyboard, where you can change the keyword.
- Delete Search - A Confirm menu is displayed.
  - Yes - Deletes the Search.
  - No - Closes the panel menu.
- Cancel - Closes the menu, changes no information, and returns to the highlighted show.

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Schedule

Schedule lets you review, edit, or delete Remind events that you set previously. See page 55 for information on how to set a reminder.

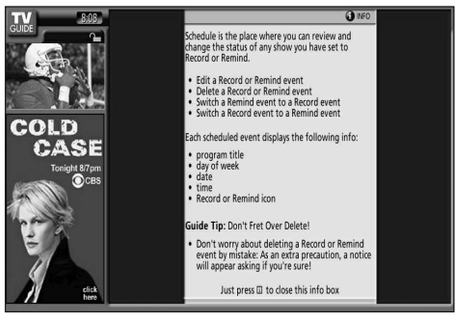
With Schedule highlighted, press the INFO button to display a Help screen. Press the INFO button again to close the screen.

An icon identifies the event type:

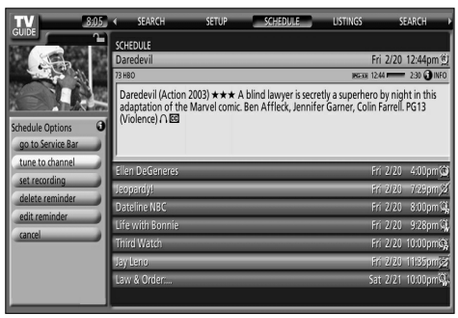
Remind

- Once - Sets a show reminder one time.
- Regularly - Sets a show reminder every time the show airs on the same channel and starts at the same time.
- Weekly - Sets a show reminder each time the show airs on the same day of the week, on the same channel and starts at the same time.
- Off - Keeps the show in the list but will not remind the show until the frequency is changed.

Highlight an event, and press the MENU button for options.


TV GUIDE
8:05
INFO
Schedule is the place where you can review and change the status of any show you have set to Record or Remind.
• Edit a Record or Remind event
• Delete a Record or Remind event
• Switch a Remind event to a Record event
• Switch a Record event to a Remind event
Each scheduled event displays the following info:
• program title
• day of week
• date
• time
• Record or Remind icon
Guide Tip: Don't Fret Over Delete!
• Don't worry about deleting a Record or Remind event by mistake: As an extra precaution, a notice will appear asking if you're sure!
Just press ⓘ to close this info box
COLD CASE
Tonight 8/7pm
CBS
click here

- ▶ Go to Service Bar - Closes the menu, changes no information, and returns to the Schedule Service Bar.
- ▶ Tune to channel - Exits the TV Guide On Screen system and tunes to the highlighted show.
- ▶ Set Recording - This TV doesn't support recording feature.
- ▶ Delete Reminder - Removes the reminder from the Schedule after a Confirm screen.
- ▶ Edit Reminder - Opens a menu from which you can change existing reminder information.
- ▶ Cancel - Closes the menu, changes no information, and returns to the highlighted show.



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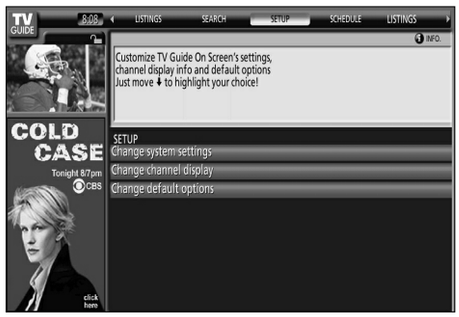
Setup

After you initially complete Guide Setup, you can make changes to Guide settings in the following areas:

- **Change System Settings**
- **Change Channel Display**
- **Change Default Options**

---

1 Highlight a choice, press the **ENTER** button, and follow the on-screen instructions.



1

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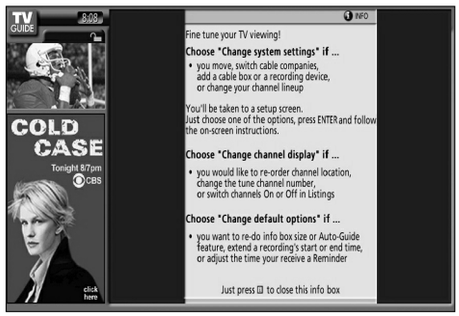
2 With Setup highlighted, press the **INFO** button to display a Help screen. Press the **INFO** button again to close the screen.

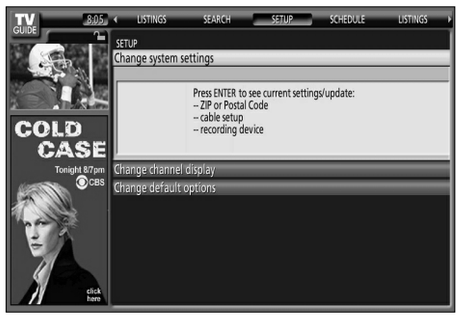

TV GUIDE
INFO
Fine tune your TV viewing!
Choose "Change system settings" if ...
• you move, switch cable companies, add a cable box or a recording device, or change your channel lineup
You'll be taken to a setup screen. Just choose one of the options, press ENTER and follow the on-screen instructions.
Choose "Change channel display" if ...
• you would like to re-order channel location, change the tune channel number, or switch channels On or Off in Listings
Choose "Change default options" if ...
• you want to re-do info box size or Auto-Guide feature, extend a recording's start or end time, or adjust the time your receive a Reminder
Just press to close this info box
COLD CASE
Tonight 8/7pm
CBS
click here

2

Change System Settings

3 This option appears after you have completed the initial Guide Setup process.

Press the **ENTER** button to display the Confirming Your Settings screen. You can see your current settings.



3

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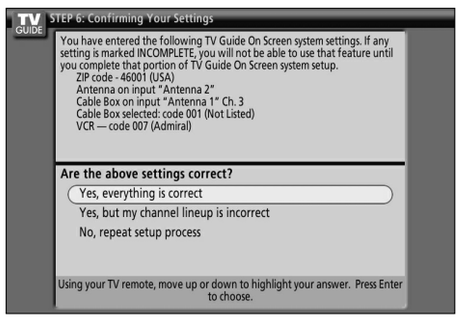
4 Choose one of the options, press the **ENTER** button, and follow the on-screen instructions.


TV GUIDE
STEP 6: Confirming Your Settings
You have entered the following TV Guide On Screen system settings. If any setting is marked INCOMPLETE, you will not be able to use that feature until you complete that portion of TV Guide On Screen system setup.
ZIP code - 46001 (USA)
Antenna on input "Antenna 2"
Cable Box on input "Antenna 1" Ch. 3
Cable Box selected: code 001 (Not Listed)
VCR — code 007 (Admiral)
Are the above settings correct?
Yes, everything is correct
Yes, but my channel lineup is incorrect
No, repeat setup process
Using your TV remote, move up or down to highlight your answer. Press Enter to choose.

4

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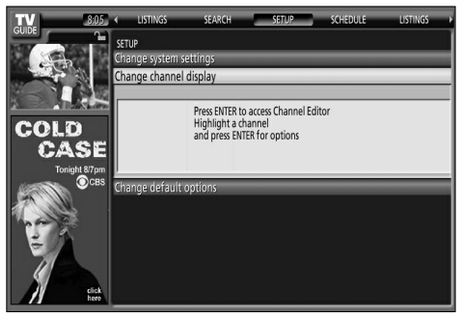
Change Channel Display



1

1 Change Channel Display lets you edit channel information that appears in Listings. With Change Channel Display you can :

- Re-order the position of the channel in Listings.
- Change the tune channel number.
- Switch a channel:

▶ On - The channel is always displayed.

▶ Off - The channel is never displayed.

▶ Auto-Hide - The channel is only displayed when program information is available.

2

2 Press the **ENTER** button to display the Channel Editor screen.

Then, highlight a channel and press the **MENU** button. A Grid Options menu is displayed.

Highlight Go Back to Setup to close the menu, change no information, and return to the Setup Service Bar.

Or make changes and when finished, press the **ENTER** button to highlight Done. Press the **ENTER** button again to close the menu and accept the changes.

Highlight Cancel to close the menu, change no information, and return to the highlighted channel.

Change Default Options

Change Default Options lets you change default settings in the following categories:

- General Defaults
- Record Defaults
- Remind Defaults

Highlight Change Default Options, and press the **ENTER** button.

1 General Defaults

1

General Defaults lets you set defaults for the following:

- The initial Info Box size when the TV Guide On Screen system is entered.

  Choices are No, Small, Large, and Last Used. (Default = Last Used)
- The Info Box size rotation when the **INFO** button is pressed while in the TV Guide On Screen system. Choices are No only, Small only, Large only, No & Small, No & Large, Small & Large, All. (Default = All)
- Automatic entry into the TV Guide On Screen system (Auto-Guide) when the TV is powered On. Choices are On and Off. (Default = Off)

1

Highlight General Defaults, and press the **MENU** button to display the General Defaults menu.

Highlight Go to Service Bar to close the menu, change no information, and return to the Setup Service Bar.

When finished, press the **ENTER** button to highlight Done. Press the **ENTER** button again to close the menu and accept the changes.

Highlight Cancel to close the menu, change no information, and return to the highlighted option.

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2 Record Defaults

This TV doesn't support recording feature.

2

3 Remind Defaults

Remind Defaults lets you set defaults for the following:

- Power On the TV, if Off, when a Reminder is scheduled. Choices are Yes and No. (Default = No)
- Automatically tune the TV to the channel (TV must be On), when a Reminder is scheduled. Choices are Yes and No. (Default = No)
- When to display the reminder screen, choices are 30 seconds to 15 minutes early, to 30 seconds to 15 minutes late, to On time. (Default = 1 min early)

3

Highlight Remind Defaults, and press the **MENU** button to display the Remind Defaults menu.

Highlight Go to Service Bar to close the menu, change no information, and return to the Setup Service Bar.

When finished, press the **ENTER** button to highlight Done. Press the **ENTER** button again to close the menu and accept the changes.

Highlight Cancel to close the menu, change no information, and return to the highlighted option.

3

Remind Features

You can set a show Reminder in Listings, Search, and Schedule or change Reminder settings for a show in Schedule.

There are 2 ways to set a show Reminder:

From a Panel Menu

1. Highlight a show, and press the **MENU** button to display the Episode Options menu.

2. Highlight Set Reminder, and press the **ENTER** button to display the Remind Options menu.

3. Highlight the Frequency option, and use the left and right arrows to choose between:

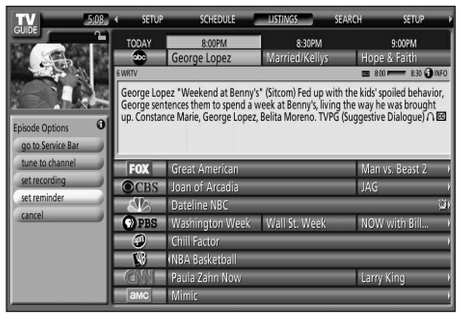
   - Once - Sets a show reminder one time.
   - Regularly - Sets a show reminder every time the show airs on the same channel and starts at the same time.
   - Weekly - Sets a show reminder each time the show airs on the same day of the week, on the same channel and starts at the same time.
   - Off - Keeps the show in the list but will not remind until the frequency is changed.

4. Power On the TV, if Off, when a Reminder is scheduled. Choices are Yes and No. (Default = No)

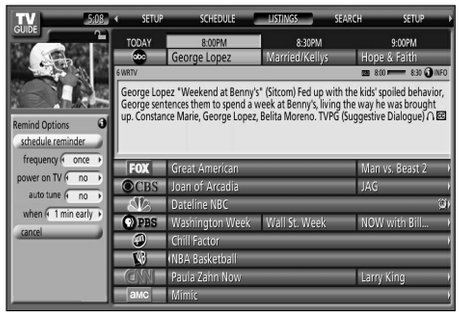
5. Automatically tune the TV to the channel (TV must be On), when a Reminder is scheduled. Choices are Yes and No. (Default =No)

6. When to display the reminder screen. Choices are 30 seconds to 15 minutes early, to 30 seconds to 15 minutes late, to On time. (Default = 1 min early)

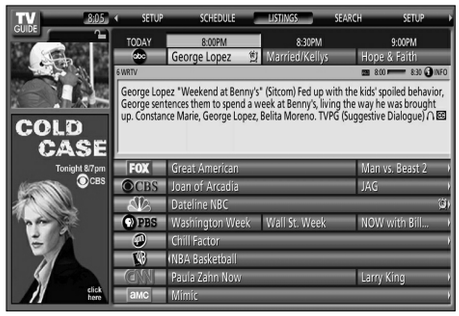
7. When finished, press the **ENTER** button to highlight Schedule Reminder. Press the **ENTER** button again to close the menu. You can see a Remind icon for the selected frequency next to the show title. Highlight Cancel to close the menu, change no information, and return to the highlighted show.



1 2



3 4 5 6



7

TV GUIDE ON SCREEN™ SYSTEM

Manual Reminder

1. Highlight the Schedule Service label, and press the **MENU** button to display the Schedule Options menu.

2. Highlight New Manual Reminder and press the **ENTER** button to display the Remind Options menu.

3. Current information (i.e., date, start and end times, channel, input) is displayed.

4. Use the ▲ ▼ ◀ ▶ button to move through the options. Use the number or the ▲ ▼ ◀ ▶ buttons to change the information, as necessary.

5. Highlight the Frequency option, and use the ◀ or ▶ button to choose among Once, Daily, Weekly, and Off, as follows :

   - Once - Sets a show reminder for the time, channel, input combination one time.
   - Daily - Reminds for the time, channel, input combination Monday through Friday.
   - Weekly - Sets a show reminder for the time, channel, input combination once a week on this selected day of the week.
   - Off (not cancel) - Keeps the time, channel, input combination in the list without reminding until the frequency is changed.

6. Power On the TV, if the TV is Off, when a Reminder is scheduled. Choices are Yes and No.(Default =No)

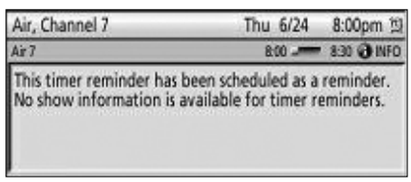
7. Automatically tune the TV to the channel (TV must be On), when a Reminder is scheduled. Choices are Yes and No. (Default = No)

8. When finished, press the **ENTER** button to highlight Schedule Reminder. Press the **ENTER** button again to close the menu. You can see a Remind icon for the selected frequency next to the input and channel number.

   Highlight Cancel to close the menu, change no information, and return to the highlighted show.

1 2

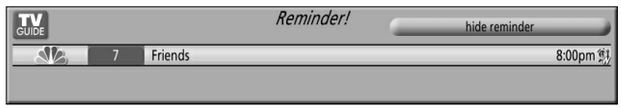
3 4 5 6 7



8

Remind Alerts

Based on your option settings, a notification screen will appear, if your TV is On at the reminder time. Then you can choose to hide the reminder, or highlight the show, and press the **ENTER** button to tune to the show. If there is no activity for 3 minutes, the notification screen automatically closes and completes the highlighted item (hide reminders).



If you choose Hide Reminders, the window closes for the show or shows, but does not affect other Reminders you set.

NOTE

▶ If more than 2 reminders are set for the same time, arrows appear on the Reminder screen. Use the ▲ or ▼ button to view the shows.

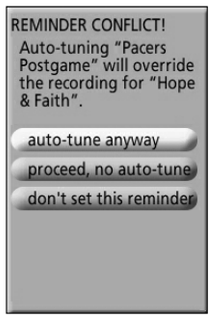
Remind Conflict

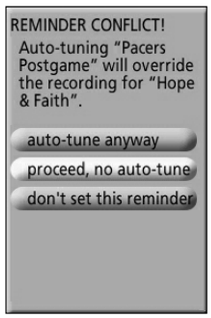
A conflict message appears for the following reasons:

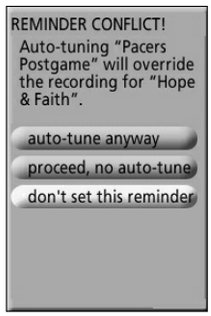
- A show set with an Auto-Tune Reminder has the same start time as an existing Auto-Tune Reminder.

Select one of these options:

- Auto-tune anyway - This show will override an existing show set to auto-tune.
- Proceed, no auto-tune - Set the show as a Reminder but do not auto-tune.
- Don't set this reminder - Cancel the Reminder.







SPECIAL FUNCTIONS | PIP / POP / Twin Picture

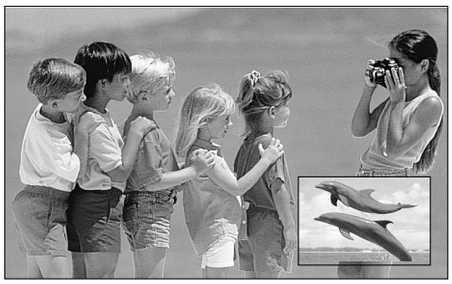
PIP lets you view 2 different inputs (sources) on your TV screen at the same time. One source will be large, and the other source will show a smaller inset image.

Twin Picture mode splits the screen into two images, allowing two picture sources to be shown on the TV screen at the same time. Each source is given half the screen.

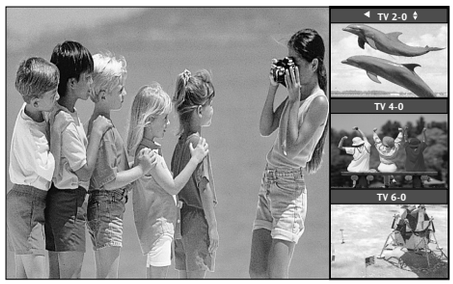
Watching PIP/POP/Twin Picture

Press the **PIP** button to access the sub picture.

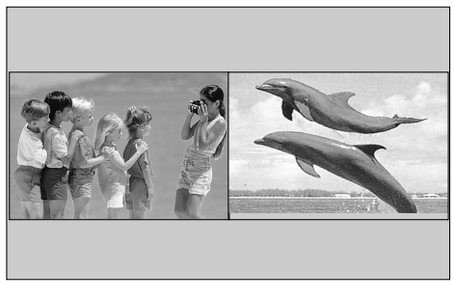
Each press of PIP changes the PIP options as shown below.



PIP Mode



POP Mode



Twin Picture Mode

PIP Off

Selecting an Input Signal Source for PIP/Twin Picture

Use the **PIP INPUT** button to select the input source for the sub picture. Each press of **PIP INPUT** button changes the PIP source. You can also select sources for the **Sub Input** in the **SETUP** menu.

Main Picture Source	Available Sub Picture Sources
DTV/CADTV	Analog (TV/CATV), AV1, and AV2
TV/CATV, AV1, AV2, Component1, Component2, RGB-PC/RGB-DTV, HDMI1/DVI, HDMI2	DTV/CADTV, Analog(TV/CATV), AV1, and AV2

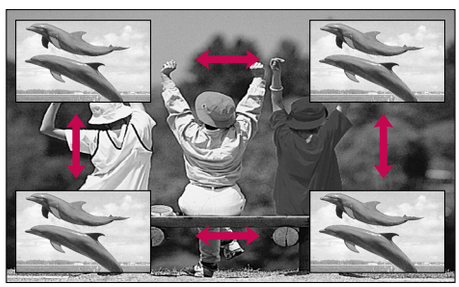
TV Program Selection for PIP

1. Press the **PIP** button.

2. Select the **Antenna** or **Cable** option on the Sub input menu or with the **PIP INPUT** button. Use the **PIP CH+** / **PIP CH-** button to select a channel for the sub picture.
   (You can't select DTV for main and sub picture simultaneously).

Moving the PIP Sub Picture

1. In PIP mode, press the ▲ ▼ ◀ ▶ button to move the sub picture to a different location on the screen.



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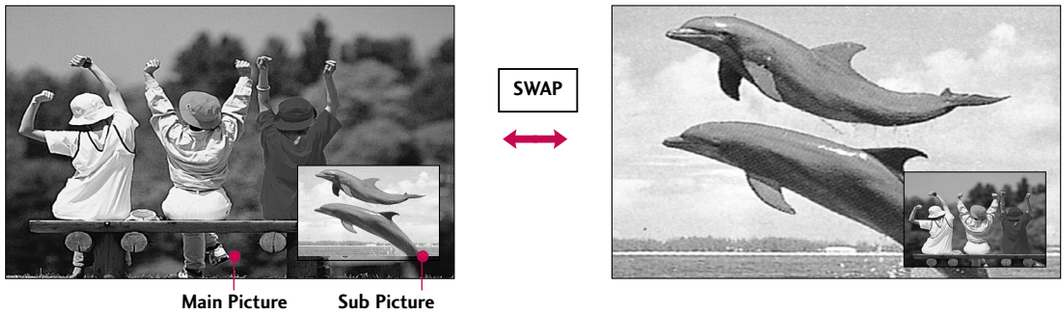
Swapping the PIP/Twin Picture

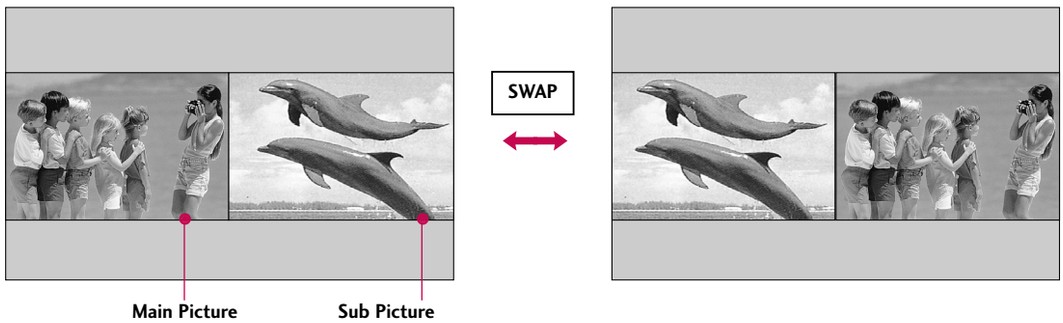
1 Repeatedly, use the **SWAP** button to switch the main and sub pictures.

- Component 1, Component 2, RGB-PC (or RGB-DTV), HDMI1/DVI, HDMI2 input sources for the main picture can't be used to swap the main and sub pictures.

PIP



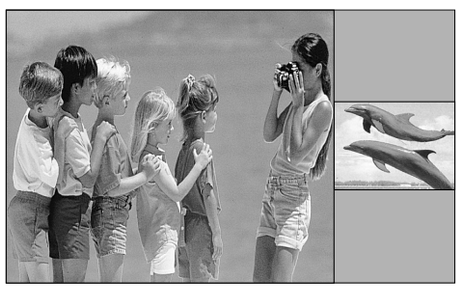
Twin Picture



Adjusting Main and Sub Picture Sizes for Twin Picture

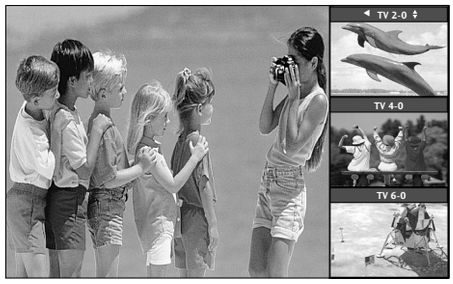
1 Use the ▲ ▼ ◄ ► button to change main and sub picture sizes in Twin Picture mode.

- If screen is adjusted to the maximum size, the large screen is filled with entire screen vertically as shown.



POP (Picture-out-of-Picture : Channel Scan)

Use POP to search the programs of all the memorized channels one-by-one on the 3 PIP screen display, (while the main picture source remains the current channel). The pictures of all the programmed channels are searched with the 3 POP screens.



1 Press the PIP button to activate the **POP mode** while in **PIP mode.**

- **Channel selection** : Use ◀ button to enlarge the selected channel being searched on the PIP screen to shift it for viewing on the Main screen.
- **PIP selection** : Use ▲ or ▼ button to select one of 3 PIP screen pictures in POP mode.
- When watching TV/CATV, TV/DTV or CATV/CADTV Sub pictures are scanned. However, when watching DTV/CADTV, only TV/CATV Sub pictures are scanned.

2 Press the EXIT button to cancel POP mode.

NOTE

- Run EZ Scan channel search before using POP mode.
- When Sub pictures are changed from the TV/DTV to CATV/CADTV in POP mode, you may hear a noise from the Tuner switch.

TV MENU

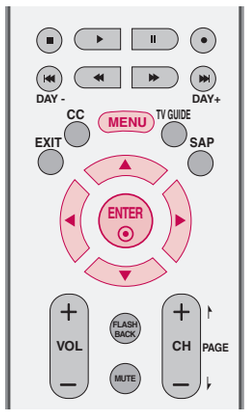
ON SCREEN MENUS SELECTION AND ADJUSTMENT

Your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

1. Press the **MENU** button and then use ▲ or ▼ button to select the each menu.

2. Press the ► button and then use ▲ ▼ ◄ ► button to display the available menus.

AUTO CHANNEL SEARCH (EZ SCAN)



Automatically finds all channels available through antenna or cable inputs, and stores them in memory on the channel list.

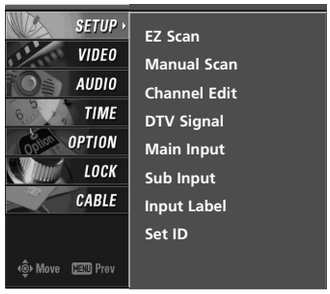
Run EZ Scan again after any Antenna/Cable connection changes.

A password is required to gain access to EZ Scan menu if the Lock System is turned on.

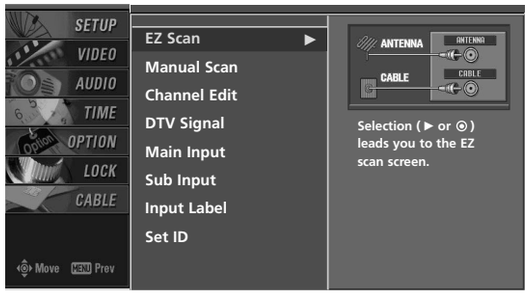
1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **EZ Scan**.

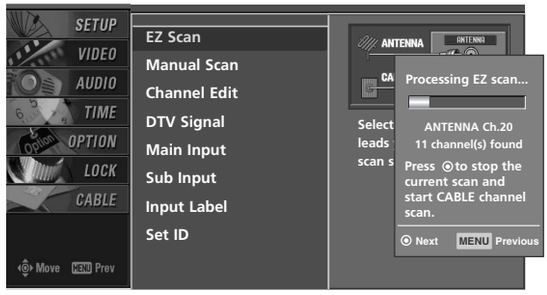
3. Press the **ENTER** button to begin the channel search. Allow **EZ Scan** to complete the channel search cycle for **ANTENNA** and **CABLE**.



1

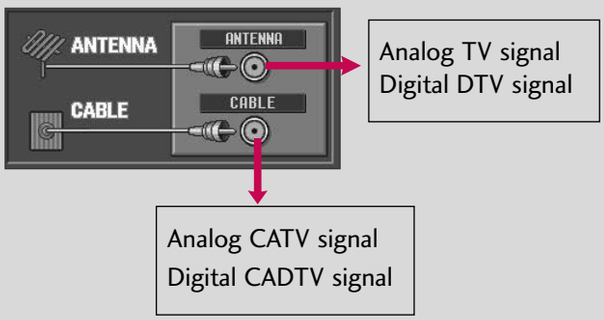


2



3

NOTE



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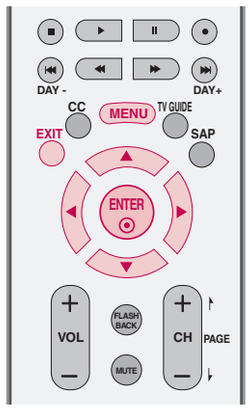
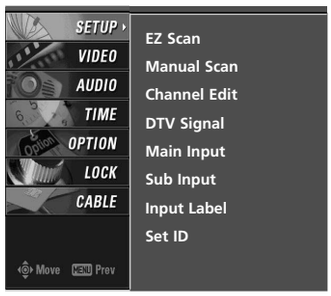
MANUAL CHANNEL SEARCH (MANUAL SCAN)



A password is required to gain access to Manual Scan menu if the Lock System is turned on.

While using the CableCARD™, CATV, CADTV is not working in Manual Scan.

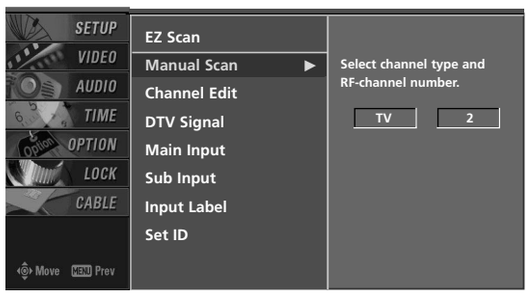
1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.



2. Press the ▶ button and then use ▲ or ▼ button to select **Manual Scan**.

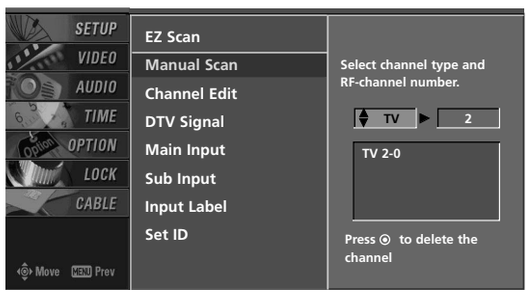
3. Press the ▶ button and then use ▲ or ▼ button to select **TV**, **DTV**, **CATV**, and **CADTV**.

4. Press the ▶ button and then use ▲ or ▼ button to select channel you want to add or delete.



5. Press the **ENTER** button to add or delete the channel.

6. Press the **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



NOTE

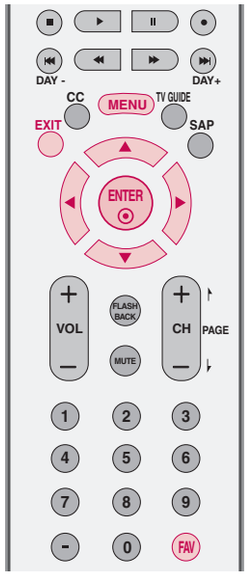
▶ This digital channel number is a physical channel number, which is different from the normal channel number shown in Channel Edit.

CHANNEL EDIT

From the default channel list created from the EZ Scan channel search, you can create two different types of channel lists in memory: “custom list” and “favorite channel list”.

A custom list can be created by toggling each channel on or off with **ENTER** button. The channels in the Custom List are displayed in black and the channels deleted from the Custom List are displayed in gray. Once a channel is highlighted you can add or delete the channel by referring to the small window at the top-right corner of the screen.

You can create your own Favorite List. Use the **FAV** button on the remote control when a channel is highlighted and then add or delete the channel to/from your Favorite List.



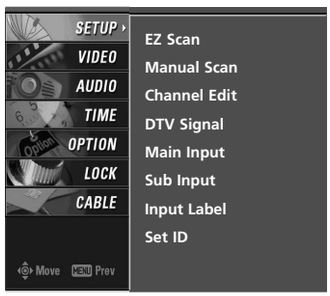
1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **Channel Edit**.

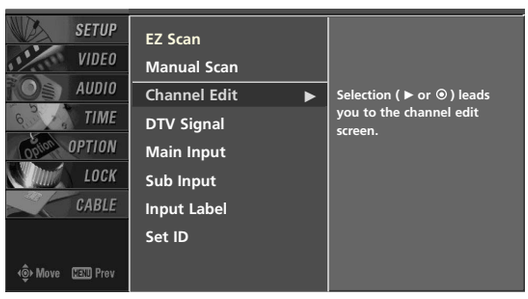
3. Press the ▶ button. You will now see a screen filled with channel numbers and a preview picture.

4. Use ▲ ▼ ◀ ▶ button to select a channel and then use the **ENTER** button to add or delete it.
   Press **FAV** button to add the channel to the Favorite List.
   The surfing icon mark will appear in front of that channel number.

5. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2

3 4

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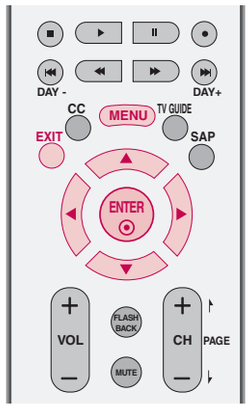
DTV SIGNAL STRENGTH



This feature displays the DTV signal levels being received and indicates whether you need to adjust your antenna or digital cable input. The higher the signal strength, the less likely you are to experience picture degradation.

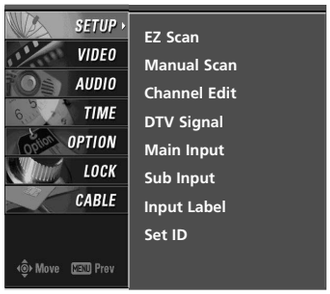
DTV Signal: This function is only available when the input signal is DTV or CADTV.

1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

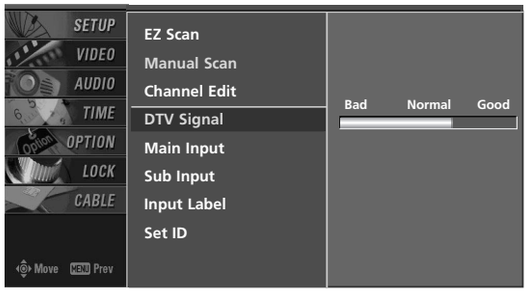
2. Press the ▶ button and then use ▲ or ▼ button to select **DTV Signal.**

3. View the on-screen signal strength monitor to see the quality of the signal being received.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



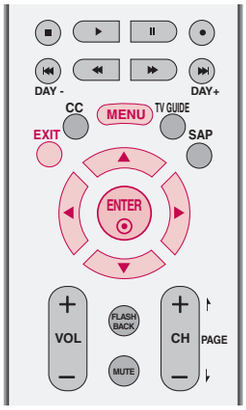
1



2 3

MAIN PICTURE SOURCE SELECTION

Changes the picture source so you can watch your off-air TV, cable TV, VCR, DVD, or any other devices that are connected to your TV.

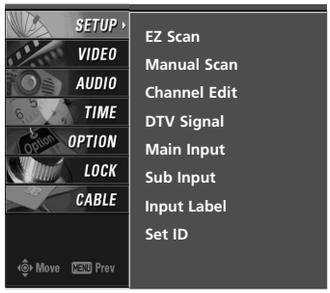


1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

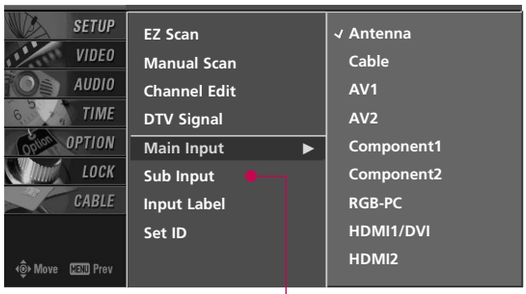
2. Press the ▶ button and then use ▲ or ▼ button to select **Main Input.**

3. Press the ▶ button and then use ▲ or ▼ button to select the source: **Antenna**, **Cable**, **AV1**, **AV2**, **Component1**, **Component2**, **RGB-PC** (or **RGB-DTV**), **HDMI1/DVI**, or **HDMI2**.
   - To toggle RGB-DTV and RGB-PC, select RGB-PC (or RGB-DTV) and press the ▶ button.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2 3

Sub Picture Source Selection

Select sources for the **Sub Input** in the **SETUP** menu.

See Page 59 for selecting the input source for the sub picture by pressing the **PIP INPUT** button.

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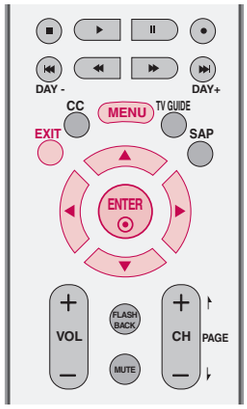
INPUT LABEL

Sets a label to each input source which is not in use when you press the INPUT button.



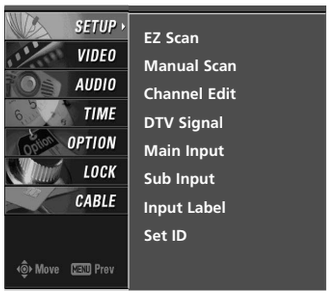
1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **Input Label**.

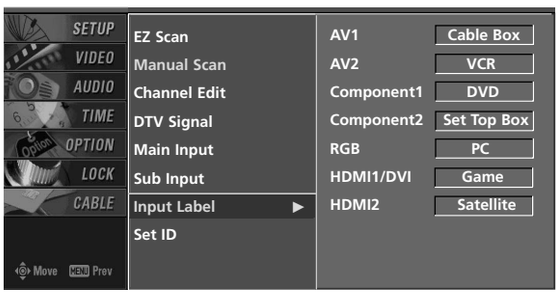
3. Press the ▶ button and then use ▲ or ▼ button to select the source: **AV1**, **AV2**, **Component1**, **Component2**, **RGB**, **HDMI1/DVI** or **HDMI2**.

4. Press the ◀ or ▶ button to select the label.

5. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



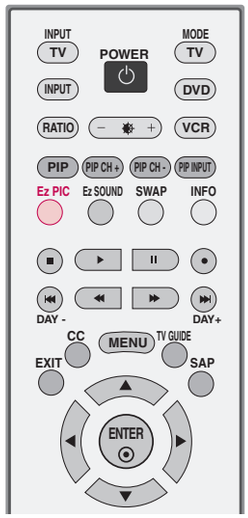
1



2 3 4

TV MENU | VIDEO ADJUSTMENT

AUTO PICTURE CONTROL (EZ PICTURE)



EZ Picture adjusts the TV for the best picture appearance. Select the preset value in the EZ Picture menu based on the program category.

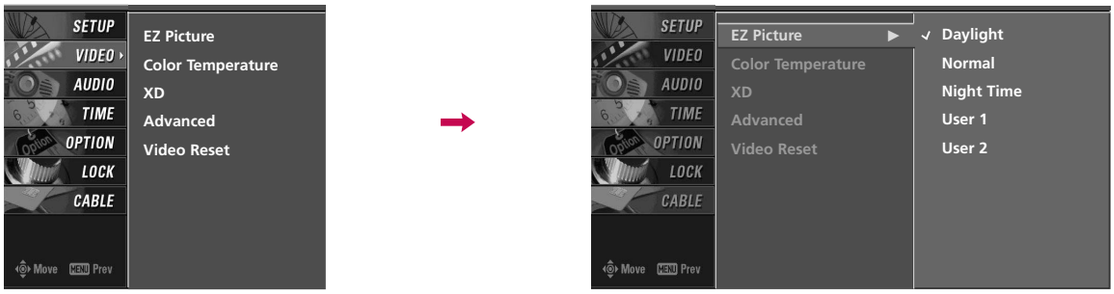
Daylight, Normal, Night Time Settings are preset for optimum picture quality at the factory and are not adjustable.

In the User1, and User2 modes only, user can directly adjust the contrast, brightness, color, sharpness, tint.

1. Press the **Ez PIC** button repeatedly to select the picture appearance setup option as below :
   Daylight, **Normal**, **Night Time**, **User1**, and **User2** (your own settings).

2. Press the **EXIT** button to save and return to TV viewing.

■ You can also use the VIDEO menu to adjust **EZ Picture**.



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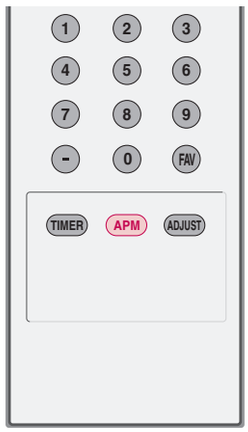
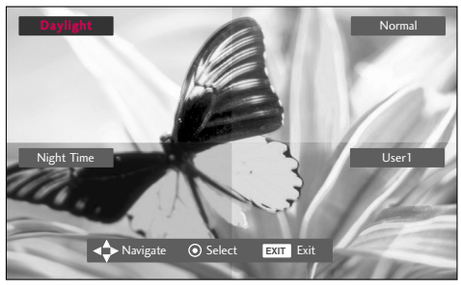
ADAPTIVE PICTURE MODE (APM)

Allows you to select your preferred picture mode after comparing the four different picture (Daylight, Normal, Night Time, User1 (or User2)) settings.



1. Press the **APM** button at once. As shown below, the screen is divided to 4-split.

2. Use the ▲ ▼ ◄ ► button to navigate 4 EZ Pictures. By pressing the **ENTER** button, you can select the desired mode.



1 2

3. Press the **APM** button twice. The 4-same screens are displayed. You can easily compare with 4 modes.

4. Use the ▲ ▼ ◄ ► button to navigate 4 EZ Pictures. By pressing the **ENTER** button, you can select the desired mode.

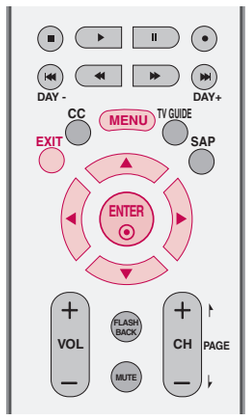
3 4

NOTE

- While operating the 4-split, any button except **APM**, **ENTER**, **EXIT**, ▲ ▼ ◄ ►, **VOLUME** ▲ or ▼, **MUTE** button on the remote control are not usable.
- APM screen will automatically disappear after approx. 40 seconds unless a button is pressed.

MANUAL PICTURE CONTROL (EZ Picture-**User** option)

Adjust the picture appearance to suit your preference and viewing situations.



1. Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

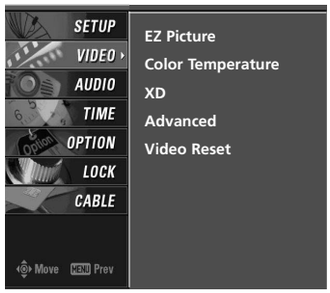
2. Press the ▶ button and then use ▲ or ▼ button to select **EZ Picture**.

3. Press the ▶ button and then use ▲ or ▼ button to select **User 1** or **User 2**.

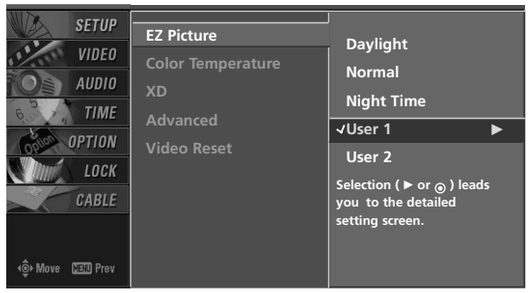
4. Press the ▶ button and then use ▲ or ▼ button to select the desired picture option **(Contrast**, **Brightness**, **Color**, **Sharpness**, or **Tint)**.

5. Press the ▶ button and then use ◀ or ▶ button to make appropriate adjustments.

6. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

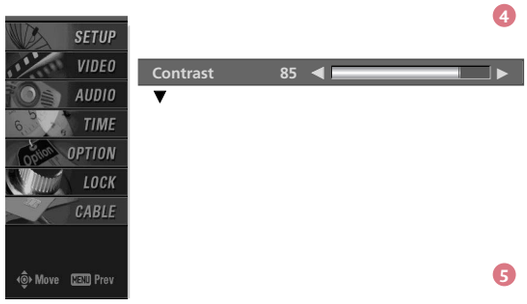


1



2 3

4



5

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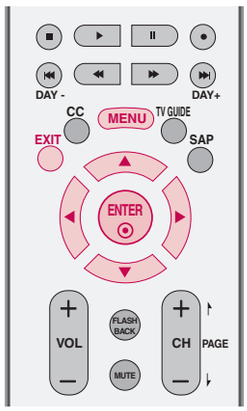
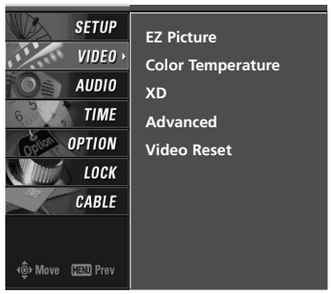
COLOR TEMPERATURE CONTROL

Auto Color Temperature Control

Choose one of three automatic color adjustments. Set to warm to enhance hotter colors such as red, or set to cool to see less intense colors with more blue.



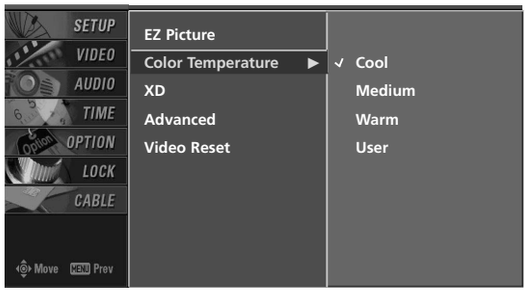
1. Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.



1

2. Press the ▶ button and then use ▲ or ▼ button to select **Color Temperature**.

3. Press the ▶ button and then use ▲ or ▼ button to select either **Cool**, **Medium**, **Warm** or **User**.

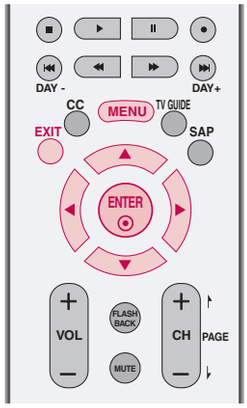


2 3

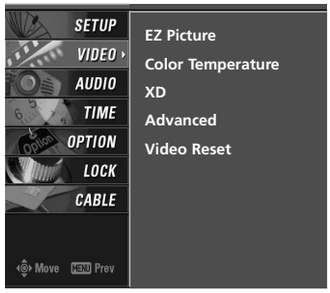
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

Manual Color Temperature Control

You can also adjust the detailed settings(Red, Green, Blue) by selecting the User menu.



1. Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.



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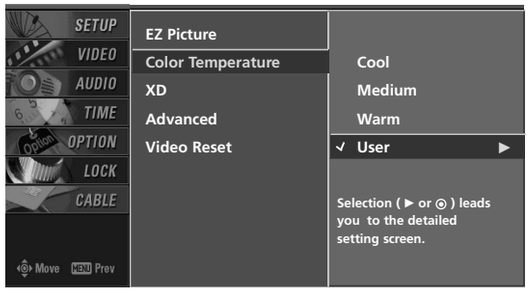
2. Press the ▶ button and then use ▲ or ▼ button to select **Color Temperature**.

3. Press the ▶ button and then use ▲ or ▼ button to select **User**.



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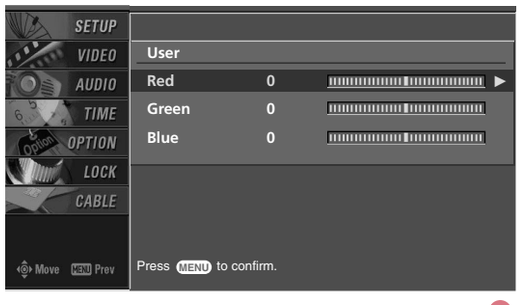
4. Press the ▶ button and then use ◀ or ▶ button to make appropriate adjustments.

   - The adjustment range of **RGB**, **Green**, or **Blue** is -20~ +20.



4

5. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

5

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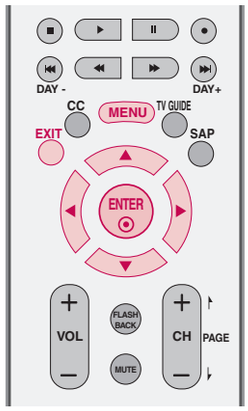
XD



XD is LG Electronic's unique picture improving technology to display a real HD source through an advanced digital signal processing algorithm.

When selecting EZ Picture options (Daylight, Normal and Night time), XD is automatically changed to Auto.

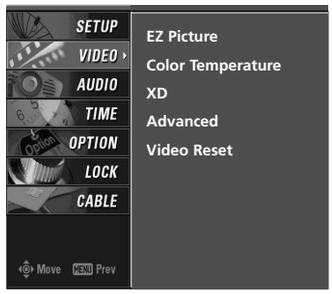
When selecting EZ Picture options (User 1 and User 2), you can choose the Auto / Manual.

When selecting the Manual, you can adjust the XD Contrast, XD color and XD Noise.

1 Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

2 Press the ▶ button and then use ▲ or ▼ button to select **XD**.

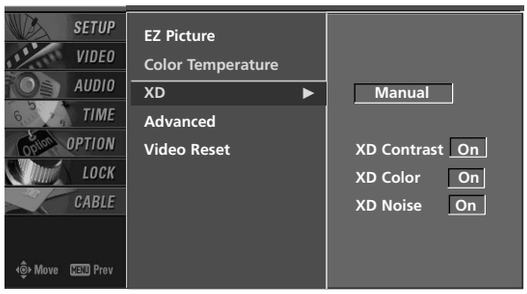
3 Press the ▶ button and then use ▲ or ▼ button to select **Auto** or **Manual**.



1

Selecting the Manual

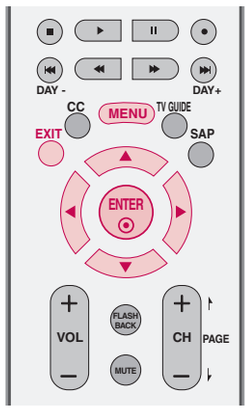
1. Press the ▶ button and then use ◀ or ▶ button to select **XD Contrast**, **XD Color** or **XD Noise**.
   - **XD Contrast:** Optimizing the contrast automatically according to the brightness of the reflection.
   - **XD Color:** Adjusting the colors of the reflection automatically to reproduce as closely as possible to the natural colors.
   - **XD Noise :** Removing the noise up to the point where it does not damage the original picture.
2. Use the ▲ or ▼ button to select **On** or **Off**.



2 3

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

ADVANCED-CINEMA 3:2 MODE SETUP

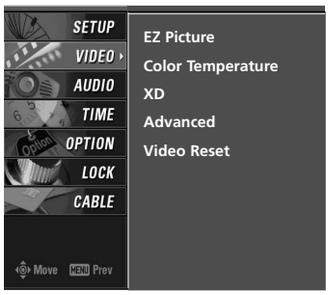


Set up the TV for the best picture appearance for viewing movies.

When you operate Cinema 3:2 Mode (3:2 Pull-Down Mode or Cinema Correction Mode), the TV will adjust 24 fps video from movies to 30 fps video for display.

This feature operates only in Analog, AV1, AV2, and Component 480i mode.

1. Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.
2. Press the ▶ button and then use ▲ or ▼ button to select **Advanced**.
3. Press the ▶ button and then use ▲ or ▼ button to select **Cinema 3:2 Mode**.
4. Press the ▶ button and then use ▲ or ▼ button to select **On** or **Off**.
5. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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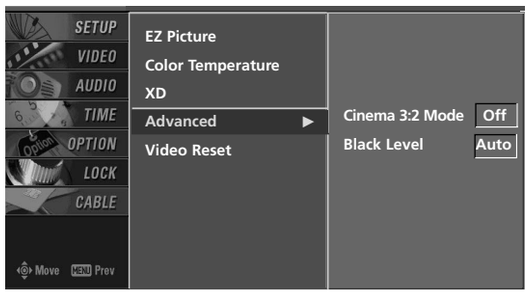

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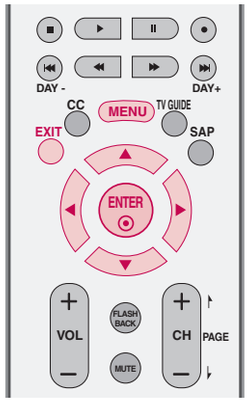
ADVANCED-BLACK LEVEL

Adjusting the contrast and the brightness of the screen using the black level of the screen.

This feature operates only in AV1, AV2, HDMI1/DVI, or HDMI2mode.



1 Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

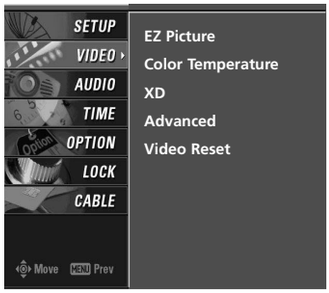
2 Press the ▶ button and then use ▲ or ▼ button to select **Advanced**.

3 Press the ▶ button and then use ▲ or ▼ button to select **Black level**.

4 Press the ▶ button and then use ▲ or ▼ button to select **Auto**, **Low**, or **High**.

- **Auto**
  Realizing the black level of the screen and set it to High or Low automatically.
- **Low**
  The screen gets darker.
- **High**
  The screen gets brighter.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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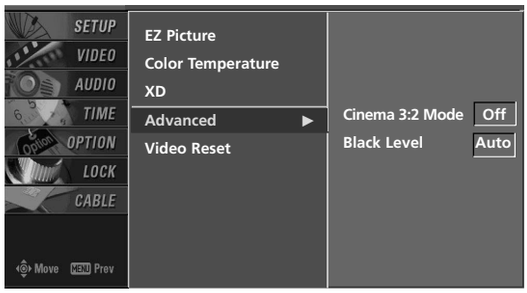

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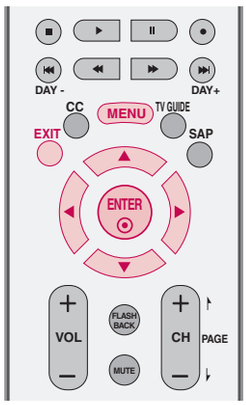
VIDEO RESET

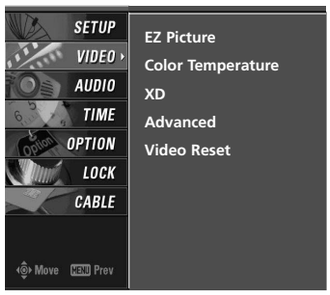
Use to quickly reset all the Video menu options to their original factory preset values.



1. Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **Video Reset**.

3. Press the ▶ button to reset the Video menu options to original values.



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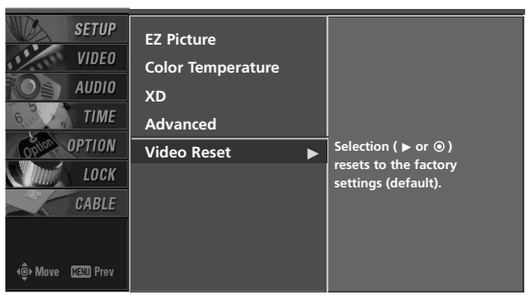

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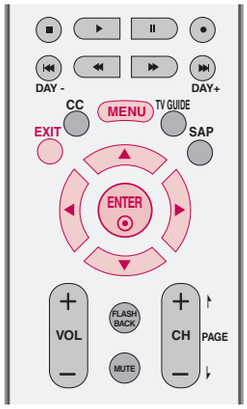
TV MENU | AUDIO ADJUSTMENT

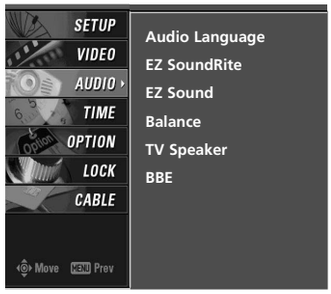
AUDIO LANGUAGE



Other languages may be available if a digital signal is provided by the broadcasting station.

This feature operates only in DTV/CADTV mode.

1. Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.
2. Press the ▶ button and then use ▲ or ▼ button to select **Audio Language**.
3. Press the ▶ button and then use ▲ or ▼ button to select : **English**, **Spanish**, or **French**.
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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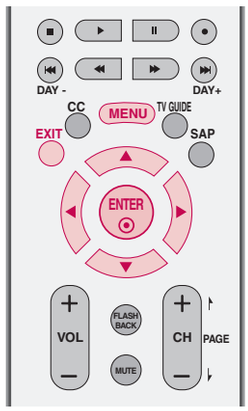
AUTO VOLUME LEVELER (EZ SOUNDRITE)

Scans for changes in sound levels during commercials, then adjusts the sound to match the specified audio level. SoundRite makes sure that the volume level remains consistent whether you are watching a commercial or a regular TV program.

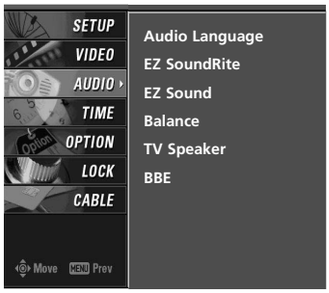


1. Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **EZ SoundRite**.

3. Press the ▶ button and then use ▲ or ▼ button to select **On** or **Off**.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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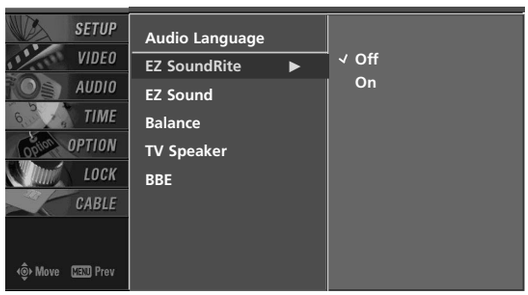

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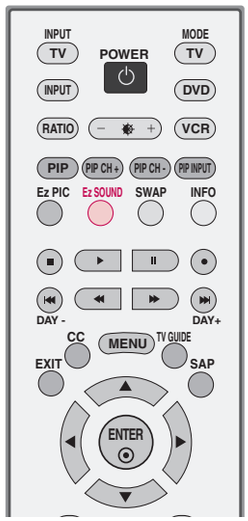
AUTO SOUND CONTROL (EZ SOUND)



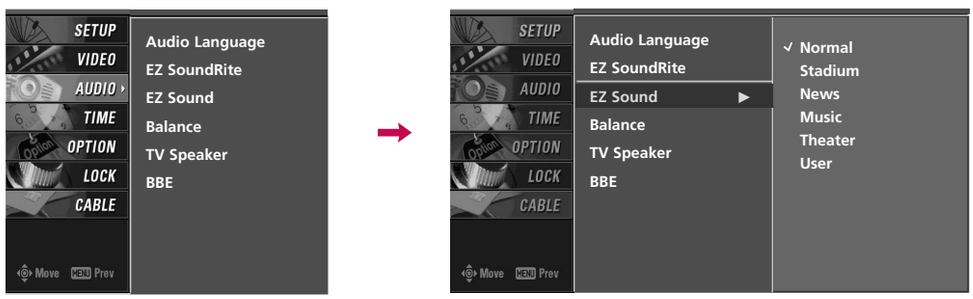
EZ Sound lets you enjoy the best sound without any special adjustment because the TV sets the appropriate sound options based on the program content.

Normal, Stadium, News, Music and Theater are preset for good sound quality at the factory and are not adjustable.

1. Press the **Ez SOUND** button repeatedly to select the appropriate sound setup as below :
   Normal, **Stadium**, **News**, **Music**, **Theater**, and **User** (your own settings).

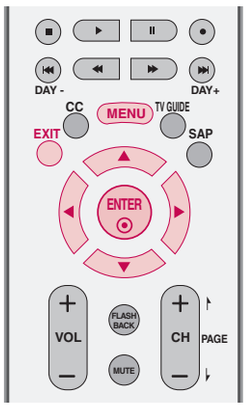
2. Press **EXIT** button to return to TV viewing.

■ You can also adjust **EZ Sound** in the AUDIO menu.



MANUAL SOUND CONTROL (EZ SOUND-User option)

Adjust the sound to suit your taste and room situations.

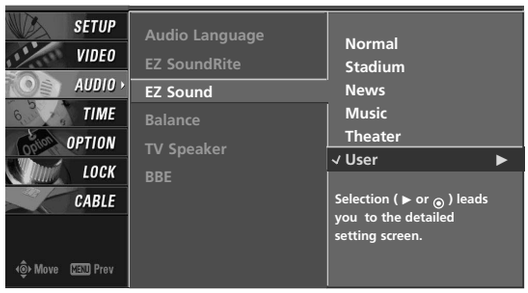


1. Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **EZ Sound**.

3. Press the ▶ button and then use ▲ or ▼ button to select **User**.

4. Press the ▶ button and then use ▲ or ▼ button to select the desired sound option (**Treble**, **Bass**, or **Front Surround**).



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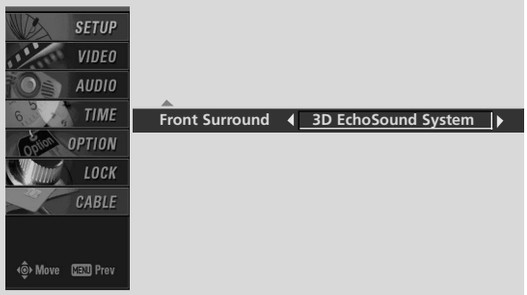
MANUAL SOUND CONTROL Continued

5 Press the ▶ button and then use ◀ or ▶ button to make appropriate adjustments.

Selecting the Front surround

Press the ▶ button and then use ◀ or ▶ button to select **Off**, **3D EchoSound System** or **SRS** (Sound Retrieval System) **TruSurround XT**.



6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SRS TruSurround XT

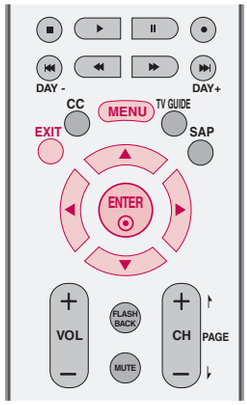
Takes advantage of any multi-channel format without needing to add extra speakers or equipment. Dialog clarity, bass enrichment, and the addition of stereo audio enhancement produces an immersive sound experience from standard stereo material.

3D EchoSound System

Creates a stunning simulated stereo effect from any mono sound and a realistic three-dimensional sound with a very wide and deep sound stage.

BALANCE

Adjust the left/right sound of speaker to suit your taste and room situations.

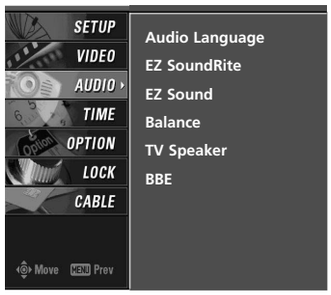


1. Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

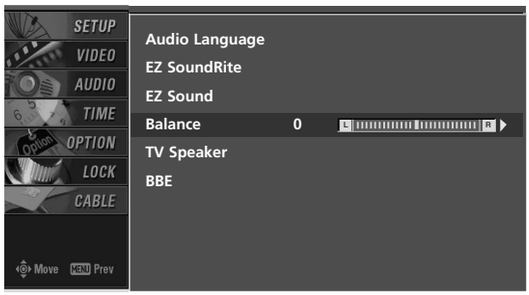
2. Press the ▶ button and then use ▲ or ▼ button to select **Balance**.

3. Press the ▶ button and then use ◀ or ▶ button to make appropriate adjustments.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



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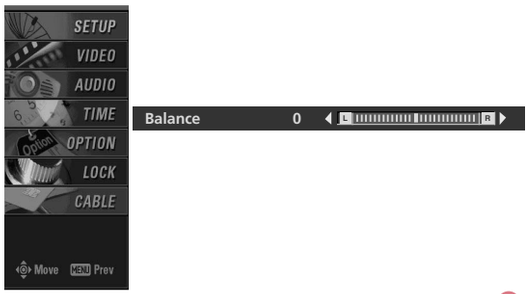

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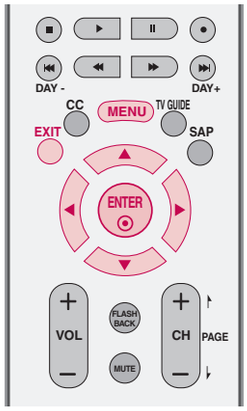
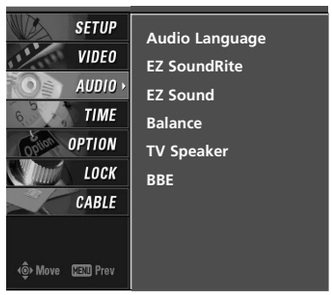
TV SPEAKERS ON/OFF SETUP

Turn the TV speakers off if using external audio equipment. Feature turns the TV Speakers option On or Off.



1. Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.
2. Press the ▶ button and then use ▲ or ▼ button to select **TV Speaker**.
3. Press the ▶ button and then use ▲ or ▼ button to select **On** or **Off**.
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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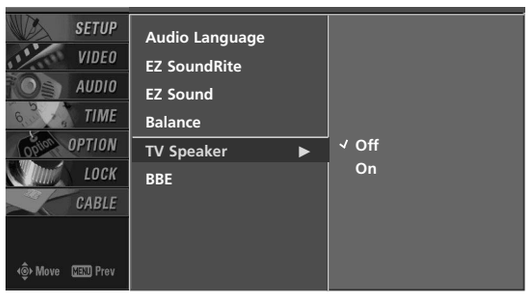

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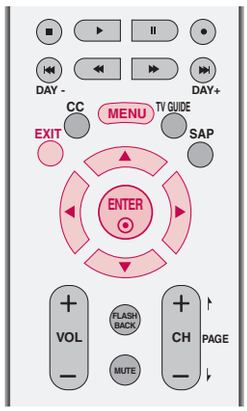
BBE

BBE High Definition Sound restores clarity for better speech intelligibility and musical realism.

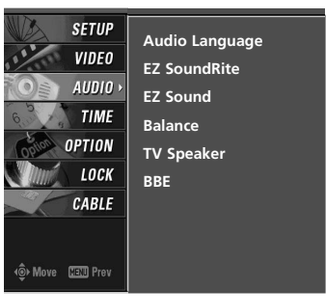


1. Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **BBE**.

3. Press the ▶ button and then use ▲ or ▼ button to select **On** or **Off**.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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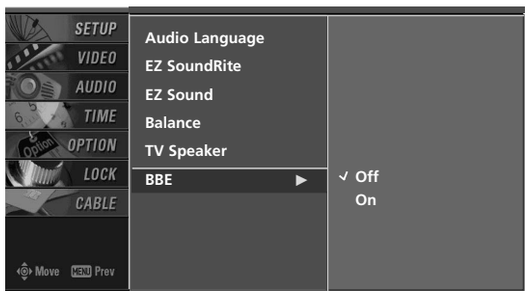

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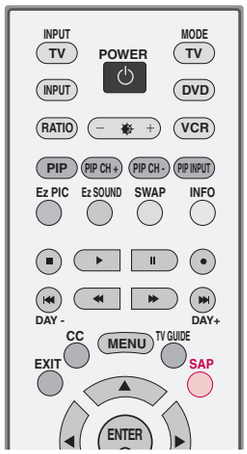
STEREO/SAP BROADCAST SETUP



This TV can receive MTS stereo programs and any SAP (Secondary Audio Program) that accompanies the stereo program if the station transmits an additional sound signal as well as the original one and when you select Stereo or SAP on the remote control.

Mono sound is automatically received if the broadcast is only in Mono; even though Stereo or SAP has been selected.

Select Mono if you want to listen to the mono sound in remote areas during stereo/SAP broadcasting.

Stereo or SAP can be received in Analog channel.

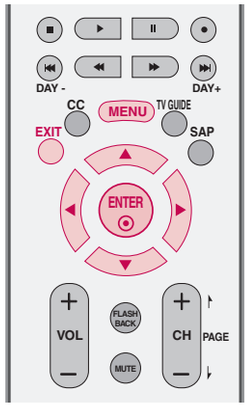
1. Use the **SAP** button to select your desired MTS mode in analog signal. Each time you press the **SAP** button, **Mono**, **Stereo**, or **SAP** appear in turn.

   - If other languages available on the digital signal, select them with the **SAP** button.

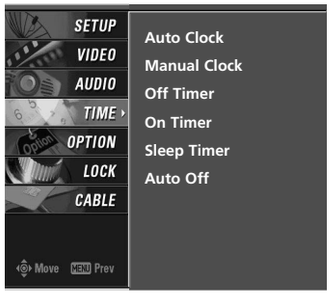
2. Press **EXIT** button to save and return to TV viewing.

TV MENU | TIME SETTING

AUTO CLOCK SETUP



The time is set automatically from a digital channel signal.
The digital channel signal includes information for the current time provided by the broadcasting station.
Set the clock manually if the current time is set incorrectly by the auto clock function.
Note: When you set up the TV Guide On Screen system, Auto Clock menu is not available.

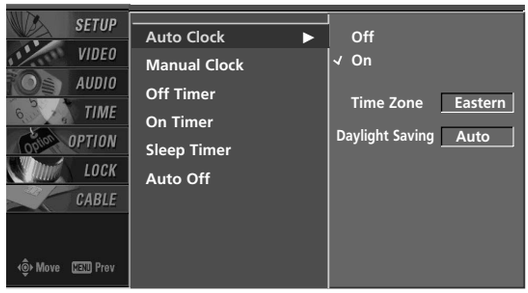


1

1. Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **Auto Clock**.

3. Press the ▶ button and then use ▲ or ▼ button to select **On**.



2 3 4 5

4. Press the ▶ button and then use ▲ or ▼ button to select your viewing area time zone:
   U.S.A : **Eastern**, **Central**, **Mountain**, **Pacific**, **Alaska** or **Hawaii**.
   Canada : **Eastern**, **Central**, **Mountain**, **Pacific**, **New F.land** or **Atlantic**.

5. Press the ▶ button and then use ▲ or ▼ button to select **Auto**, **Off**, **On**, depending on whether or not your viewing area observes Daylight Saving time.

6. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

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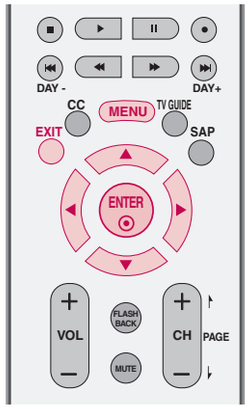
MANUAL CLOCK SETUP

If the current time setting is wrong, reset the clock manually. When you set up the TV Guide On Screen system, the Manual Clock menu is not available.



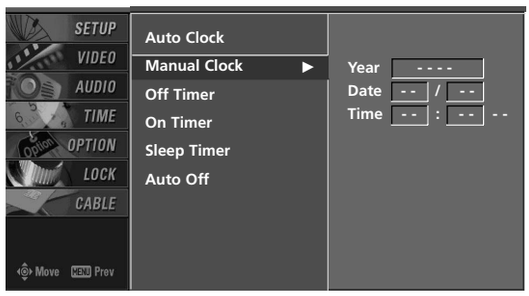
1. Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **Manual Clock**.

3. Press the ▶ button and then use ◀ or ▶ to select either the year, date, or time option. Once selected, use the ▲ or ▼ button to set the year, date, and time options.

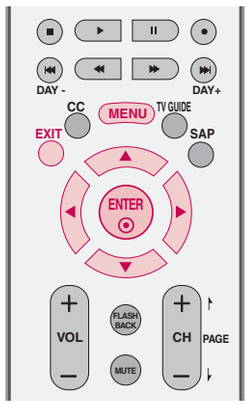
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

1



2 3

ON/OFF TIMER SETUP



The timer function operates only if the current time has been set.

The Off-Timer function overrides the On-Timer function if they are both set to the same time.

The TV must be in standby mode for the On-Timer to work.

If you do not press any button within 2 hours after the TV turns on with the On Timer function, the TV will automatically revert to standby mode.

---

1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

---

2 Press the ▶ button and then use ▲ or ▼ button to select **Off Timer** or **On Timer**.

3 Press the ▶ button and then use ▲ or ▼ button to select **On**.

■ To cancel the **On/Off timer** function, select **Off**.

4 Press the ▶ button and then use ▲ or ▼ button to set the hour.

5 Press the ▶ button and then use ▲ or ▼ button to set the minutes.

6 **Only On timer**

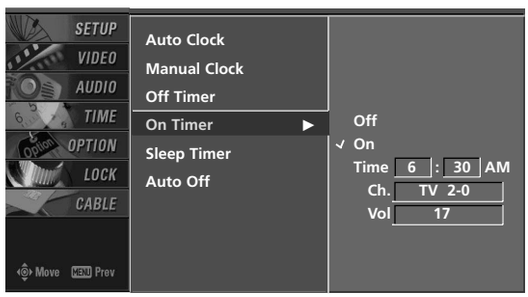
Press the ▶ button and then use ▲ or ▼ to select the channel at turn-on.

Press the ▶ button and then use ▲ or ▼ to set the sound level at turn-on.

---

7 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

1



2 3 4 5 6

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SLEEP TIMER

The Sleep Timer turns the TV off at the preset time.
Note that this setting is cleared when the TV is turned off.

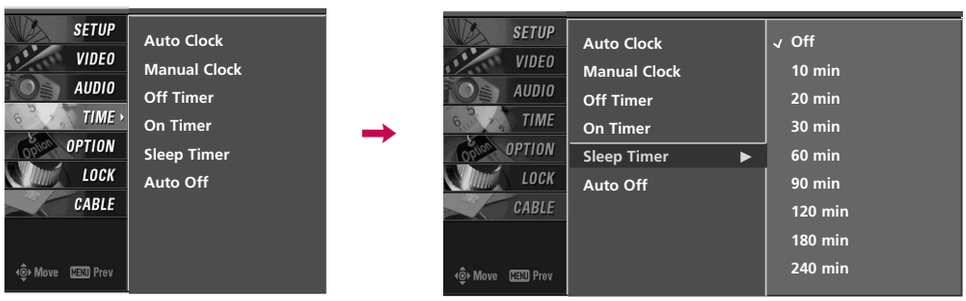
1. Press the **TIMER** button repeatedly to select the number of minutes. First the **Off** option appears on the screen, followed by the following sleep timer options : 10, 20, 30, 60, 90, 120, 180, and 240 minutes.

2. When the number of minutes you want is displayed on the screen, press the **ENTER** button. The timer begins to count down from the number of minutes selected.

3. To check the remaining minutes before the TV turns off, press the **TIMER** button once.

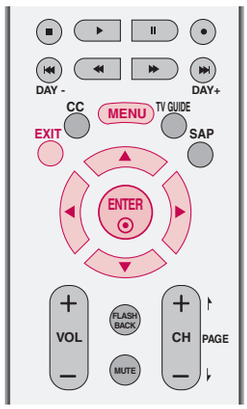
4. To cancel the Sleep Timer, press the **TIMER** button repeatedly to select **Off**.

■ You can also set up the **Sleep Timer** in the TIME menu.



AUTO OFF

If set to on and there is no input signal, the TV turns off automatically after 10 minutes.



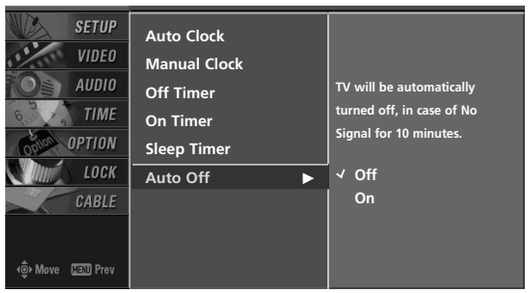
1. Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **Auto Off**.

3. Press the ▶ button and then use ▲ or ▼ button to select **On** or **Off**.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

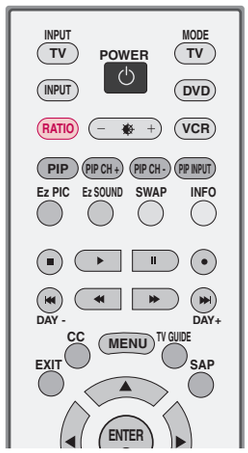
1



2 3

TV MENU | OPTIONAL FEATURES

ASPECT RATIO CONTROL



This feature lets you choose the way an analog picture with a 4:3 aspect ratio is displayed on your TV. When you receive an analog picture with a 4:3 aspect ratio on your 16:9 TV, you need to specify how the picture is to be displayed.

- **RGB-PC/DVI-PC input source use 4:3 or 16:9 aspect ratio.**

NOTE

- If a fixed image is displayed on the screen for a long time, the image may become imprinted on the screen and remain visible.
  This phenomenon is common to all manufactures and in consequence the manufactures warranty does not cover the product bearing this phenomenon.

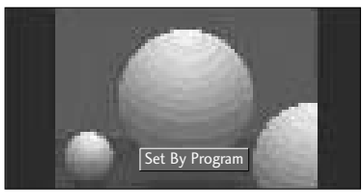
1 Press the **RATIO** button repeatedly to select the desired picture format.

You can also adjust **Aspect Ratio** in the **OPTION** menu.

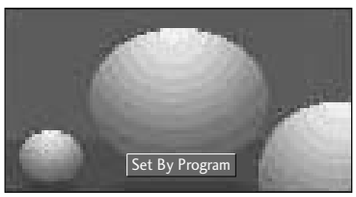
Set by program

Selects the proper picture proportion to match the source's image.

4:3 → 4:3

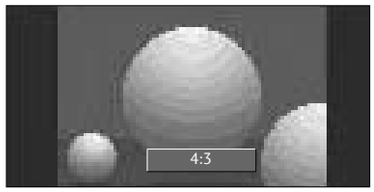


16:9 → 16:9



4:3

Choose 4:3 when you want to view a picture with an original 4:3 aspect ratio.



16:9

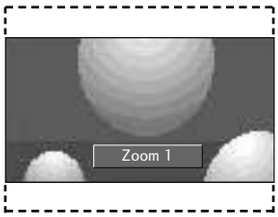
Adjust the picture horizontally, in a linear proportion to fill the entire screen.

Horizon

The screen size is, more enlarged at both sides, to create a spectacular view.

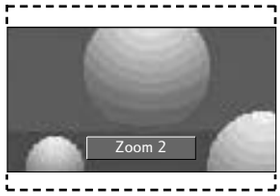
Zoom 1

Choose Zoom 1 when you want to view the picture without any alteration. However, the top and bottom portions of the picture will be cropped.



Zoom 2

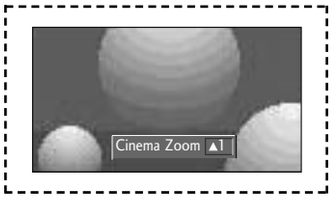
Choose Zoom 2 when you want the picture to be altered, both vertically extended and cropped. The picture taking a halfway trade off between alteration and screen coverage.



Cinema Zoom

Choose Cinema Zoom when you want to enlarge the picture in correct proportion.
Note: When enlarging or reducing the picture, the image may become distorted.

You can adjust the enlarge proportion of Cinema Zoom using ▲ or ▼ button.
The adjustment range is 1-16.



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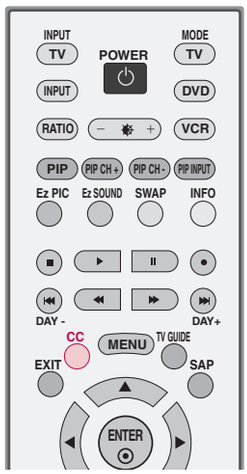
CAPTION / TEXT



Analog Broadcasting System Captions

Select a caption mode for displaying captioning information if provided on a program. Analog caption displays information at any position on the screen and is usually the program's dialog.

Text displays information, usually at the bottom position and is used for a data service, generally not program related. Caption/Text, if provided by the broadcaster, would be available for both digital and analog channels on the Antenna/Cable.

This TV is programmed to memorize the caption/text mode which was last set when you turn the power off.

1 Use the **CC** button repeatedly to select Caption **Off**, **CC1**, **CC2**, **CC3**, **CC4**, **Text1**, **Text2**, **Text3** or **Text4**.

■ **CAPTION**

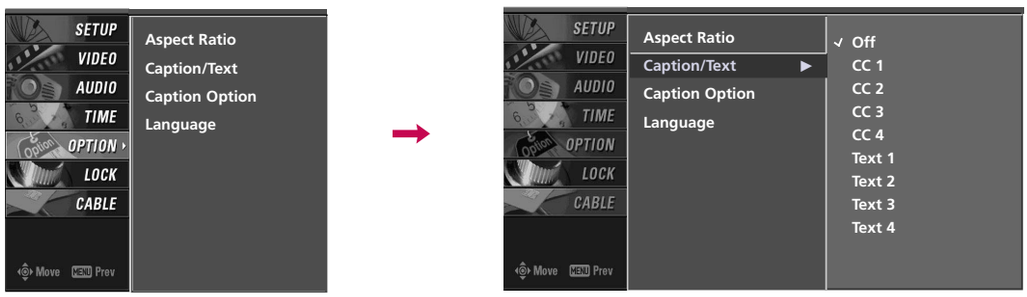
The term for the words that scroll across the bottom of the TV screen; usually the audio portion of the program provided for the hearing impaired.

■ **TEXT**

The term for the words that appear in a large black frame and almost cover the entire screen; usually messages provided by the broadcaster.

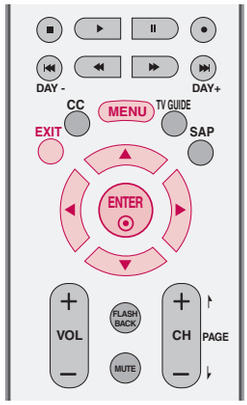
2 Press **EXIT** to save and return to TV viewing.

■ You can also use the **OPTION** menu to select **Caption/Text**.



Digital Broadcasting System Captions

Choose the language you want the DTV/CADTV Captions to appear in.
Languages can be chosen for digital sources only if they are included on the program.

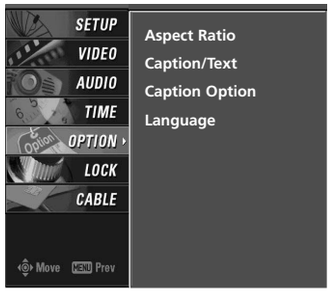


1. Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2. Press the ▶ button and then use ▲ or ▼ button to select **Caption/Text**.

3. Press the ▶ button and then use ▲ or ▼ button to select available caption languages : **English**, **Spanish** or **French**.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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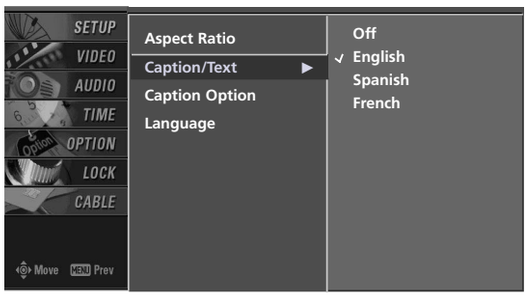

2 3

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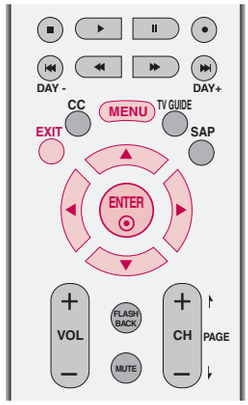
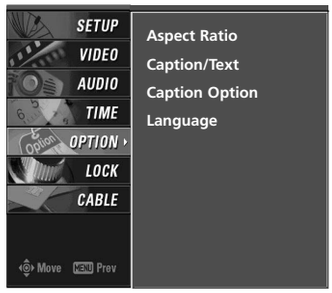
CAPTION OPTION

Customize the DTV/CADTV captions that appear on your screen.



1. Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

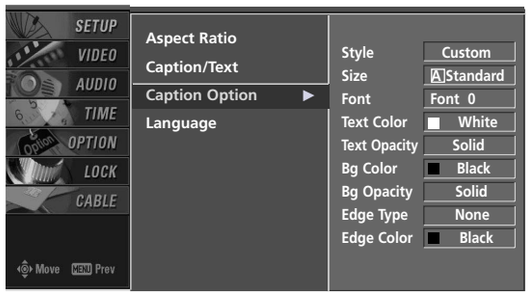


1

2. Press the ▶ button and then use ▲ or ▼ button to select **Caption Option**.

3. Press the ▶ button and then use ◀ or ▶ button to select **Custom**.

4. Use ▲ or ▼ button to customize the **Style**, **Font**, etc., to your preference.
   A preview icon is provided at the bottom of the screen, use it to see the caption language.

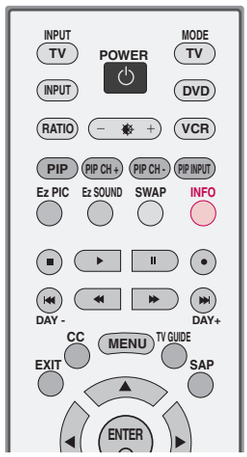


2 3 4

- ▶ **Size** : Set the word size.
- ▶ **Font** : Select a typeface for the text.
- ▶ **Text Color** : Choose a color for the text.
- ▶ **Text Opacity** : Specify the opacity for the text color.
- ▶ **Bg (Background) Color** : Select a background color.
- ▶ **Bg (Background) Opacity** : Select the opacity for the background color.
- ▶ **Edge Type** : Select an edge type.
- ▶ **Edge Color** : Select a color for the edges.

5. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

BRIEF INFO.



What is Brief Info.?

: Brief Info shows the present screen information.
: On Watching with the upper Input signal, press the **INFO** button.

How To Use?

1. Press the **INFO** button to show the Brief Info on the screen.
2. Press the **INFO** button or **EXIT** button to exit.

	Multilingual : Input Signal have over two Audio information.
CC	**Caption** : Input Signal have over one Close service.
4:3	Screen Ratio of Input Signal 4:3
16:9	Screen Ratio of Input Signal 16:9
480i	Resolution of Input Signal 720x480i
480p	Resolution of Input Signal 720x480p
720p	Resolution of Input Signal 1280x720p
1080i	Resolution of Input Signal 1920x1080i
	Input Signal have rating information. Refer to the <Lock Menu>. D(Dialogue), L(Language), S(Sex), V(Violence), FV(Fantasy Violence)

1. Program title
2. Day, Month, Year
3. Program start time
4. Program progress bar
5. Program finish time
6. Present time
7. Program information
8. Banner information

TV MENU | LOCK ADJUSTMENT

Parental Control can be used to block specific channels, ratings and other viewing sources.

The Parental Control Function (V-Chip) is used to block program viewing based on the ratings sent by the broadcasting station. The default setting is to allow all programs to be viewed. Viewing can be blocked by choosing the type of the program and the categories. It is also possible to block all program viewing for a time period. To use this function, the following must be done :

1. Set ratings and categories to be blocked.
2. Specify a password
3. Enable the lock

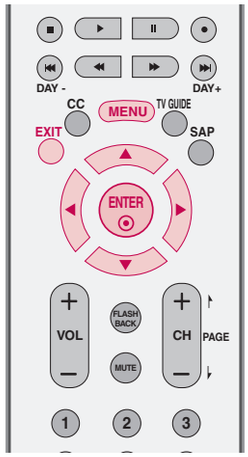
V-Chip rating and categories

Rating guidelines are provided by broadcasting stations. Most television programs and television movies can be blocked by TV Rating and/or Individual Categories. Movies that have been shown at the theaters or direct-to-video movies use the Movie Rating System (MPAA) only.

Ratings for Television programs including made-for-TV movies :

- TV-G (General audience)
- TV-PG (Parental guidance suggested)
- TV-14 (Parents strongly cautioned)
- TV-MA (Mature audience only)
- TV-Y (All children)
- TV-Y7 (Children 7 years older)

SETTING UP YOUR PASSWORD



Set up blocking schemes to block specific channels, ratings, and external viewing sources.

A password is required to gain access to this menu.

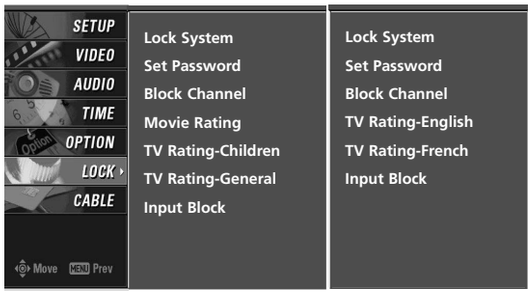
1. Press the **MENU** button and then use the ▲ or ▼ button to select the **LOCK** menu. Then, press the ▶ button.

   - Enter the password as requested.
   - The TV is set up with the initial password “0-0-0-0”.

LOCK SYSTEM

Enables or disables the blocking scheme you set up previously.

For USA For Canada

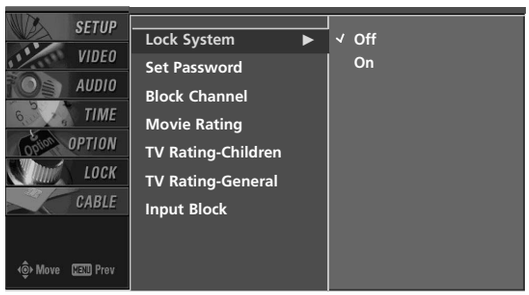


1

1 After inputting the password, use the ▲ or ▼ button to choose **Lock System**.

2 Press the ► button and then use the ▲ or ▼ button to select **On** or **Off**.

■ When you select **On**, the Lock System is enable.



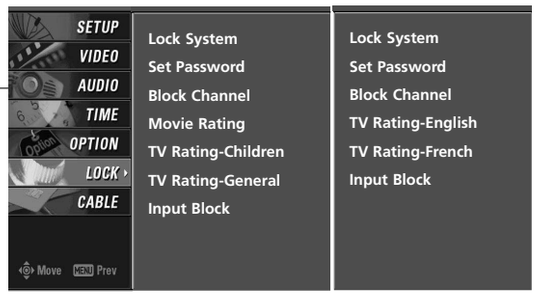
2

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SET PASSWORD

Change the password by inputting a new password twice.

For USA For Canada



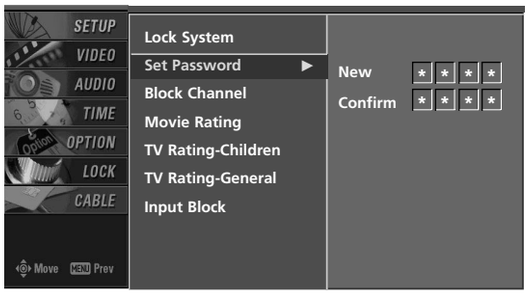
1

1 After inputting the password, use the ▲ or ▼ button to choose **Set password**.

2 Press the ► button and then choose any 4 digits for your new password.

As soon as the 4 digits are entered, re-enter the same 4 digits on the **Confirm**.

Then your changed password has been memorized.



2

3 Press **EXIT** to return to TV viewing or press **MENU** to return to the previous menu.

NOTE

► If you ever forget your password, key in '7', '7', '7', '7' on the remote control.

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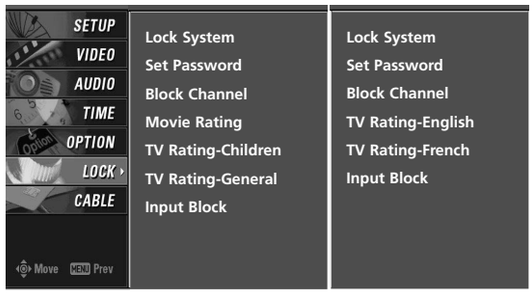
BLOCK CHANNEL

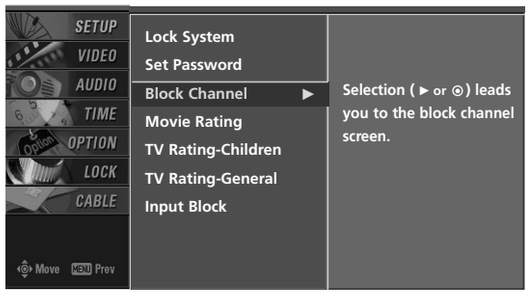
Blocks any channels that you do not want to watch or that you do not want your children to watch.

1. After inputting the password, use the ▲ or ▼ button to choose **Block Channel**.
2. Press the ► button. You will now see a screen filled with channel numbers and a preview picture.
3. Use ▲ ▼ ◄ ► button to select a channel and then use the **ENTER** button to block or unblock it.
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

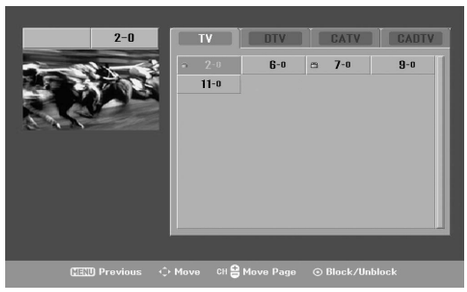
For USA For Canada



1



2



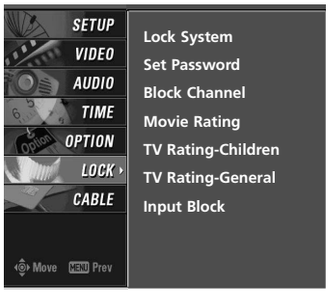
3

MOVIE RATING (MPAA) *- for USA only*

Blocks movies according to the movie ratings limits specified, so children cannot view certain movies. You can set the ratings limit by blocking out all the movies with the ratings above a specified level. Keep in mind that the movie ratings limit only applies to movies shown on TV, not TV programs, such as soap operas.

---

1 After inputting the password, use the ▲ or ▼ button to choose **Movie Rating**.



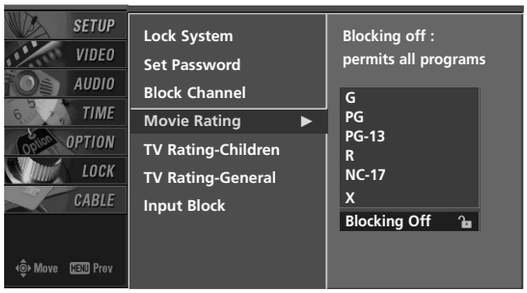
1

---

2 Press the ▶ button and then use the ▲ or ▼ button to select **G**, **PG**, **PG-13**, **R**, **NC-17** or **X**.

- G (General audience)
- PG (Parental guidance suggested)
- PG-13 (Parents strongly cautioned)
- R (Restricted)
- NC-17 (No one 17 and under admitted)
- X (Adult only)
- Blocking Off (Permits all programs)

▶ If you set PG-13 : G and PG movies will be available, PG-13, R, NC-17 and X will be blocked.



2

---

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

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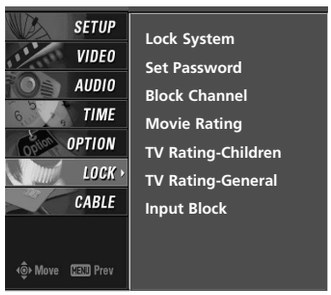
TV RATING CHILDREN *- for USA only*

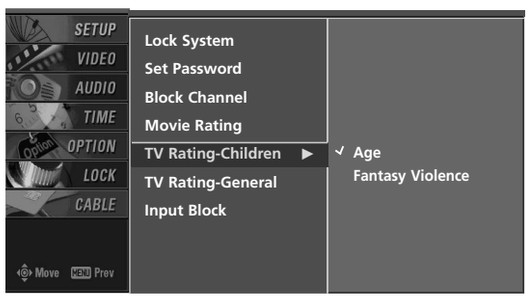
Prevents children from watching certain children's TV programs, according to the ratings limit set. The children rating does not apply to other TV programs. Unless you block certain TV programs intended for mature audiences in the TV Rating - sub menu, your children can view those programs.



1

1. After inputting the password, use the ▲ or ▼ button to choose **TV Rating-Children**.

2. Press the ▶ button and then use the ▲ or ▼ button to select **Age**, or **Fantasy Violence**.
   Press the ▶ button and then use the ▲ or ▼ button to select block options.
   - Age(applies to TV-Y, TV-Y7)
   - Fantasy Violence(applies to TV-Y7)

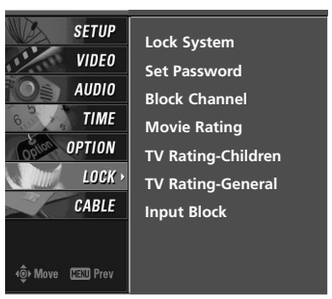


2

3. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

TV RATING GENERAL *- for USA only*

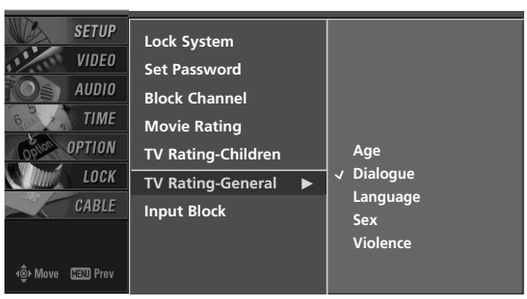
Based on the ratings, blocks certain TV programs that you and your family do not want to view.



1

1. After inputting the password, use the ▲ or ▼ button to choose **TV Rating-General**.

2. Press the ▶ button and then use the ▲ or ▼ button to select **Age**, **Dialogue**, **Language**, **Sex** or **Violence**.
   Press the ▶ button and then use the ▲ or ▼ button to select block options.
   - Age(applies to TV-G,TV-PG,TV-14,TV-MA)
   - Dialogue-sexual dialogue (applies to TV-PG,TV-14)
   - Language-adult language (applies to TV-PG,TV-14,TV-MA)
   - Sex-sexual situations (applies to TV-PG,TV-14,TV-MA)
   - Violence (applies to TV-PG,TV-14,TV-MA)



2

3. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

TV RATING ENGLISH *- for CANADA only*

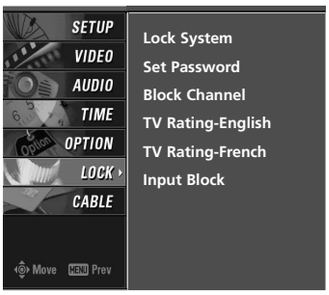
Selecting canadian english language rating system.

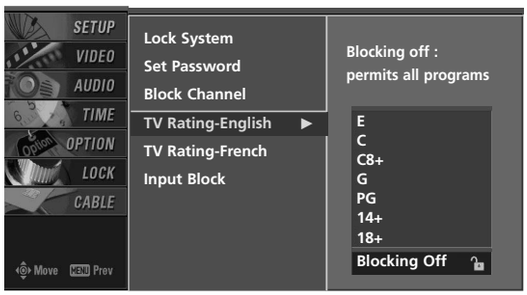
1. After inputting the password, use the ▲ or ▼ button to choose **TV Rating-English**.

2. Press the ► button and then use the ▲ or ▼ button to select **E**, **C**, **C8+**, **G**, **PG**, **14+**, **18+**, or **Blocking Off**.

   - E (Exempt)
   - C (Children)
   - C8+ (Children eight years and older)
   - G (General programming, suitable for all audiences)
   - PG (Parental Guidance)
   - 14+ (Viewers 14 years and older)
   - 18+ (Adult programming)
   - Blocking Off (Permits all programs)

3. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.





TV RATING FRENCH *- for CANADA only*

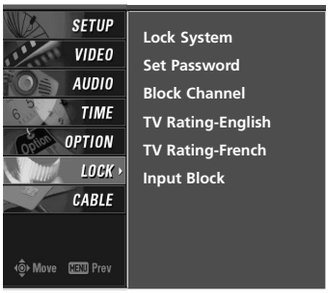
Selecting canadian french language rating system.

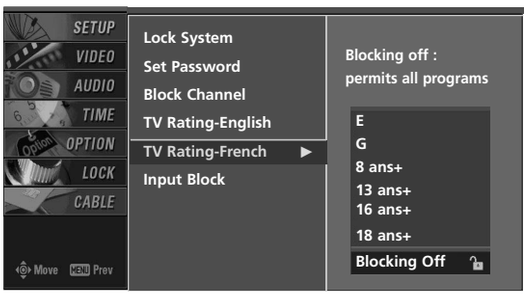
1. After inputting the password, use the ▲ or ▼ button to choose **TV Rating-French**.

2. Press the ► button and then use the ▲ or ▼ button to select **E**, **G**, **8ans+**, **13ans+**, **16ans+**, **18ans+**, or **Blocking off**.

   - E(Exempt)
   - G(General)
   - 8ans+ (General-Not convenient for little children)
   - 13ans+ (Not convenient for children of 13 years and younger)
   - 16ans+ (Not convenient for children of 16 years and younger)
   - 18ans+ (This programs is only for adults)
   - Blocking off (Permits all programs)

3. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



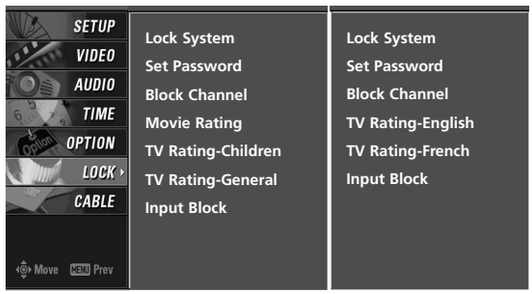


INPUT BLOCK

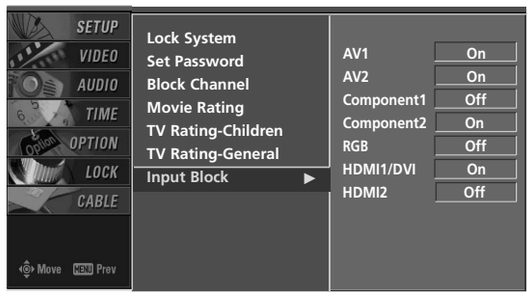
Enables you to select a source to block from the external source devices you have hooked up.

1. After inputting the password, use the ▲ or ▼ button to choose **Input Block**.
2. Press the ► button and then use the ◄ or ► button to select a source.
3. Press the ► button and then use the ▲ or ▼ button to select **On** or **Off** on the each source.
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

For USA For Canada



1



2 3

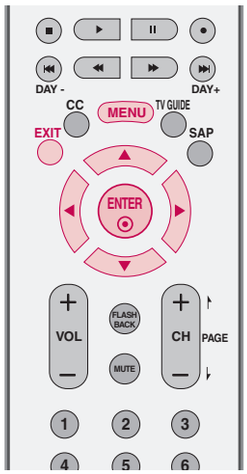
TV MENU | CableCARD™ FUNCTION

In this manual, the OSD (On Screen Display) may be different from your TV's because it is just example to help the TV operation.

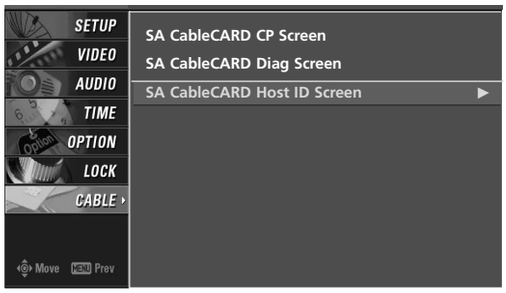
CABLE MENU OPTIONS

The Cable sub menu displays when inserting the CableCARD™ to the TV.

The CableCARD™ type is Motorola, Scientific Atlanta (SA), or SCM etc. The OSD (On screen display) is different from your TV according to your CableCARD™ type.



1. Press the **MENU** button and then use ▲ or ▼ button to select the **CABLE** menu.
2. Press the ▶ button and then use ▲ or ▼ button to select your desired item.
3. Press the ▶ button.
4. Press **EXIT** button to return to TV viewing.



In case of Scientific Atlanta CableCARD™

CableCARD(tm) Message
In order to start service for this device, please contact customer service at Ph#: 1-866-303-0422
CableCARD(tm): 0-010-405-698-001
HOST ID: 0-080-000-000-226
EXIT Exit

CableCARD™/ Host ID Screen

As shown, the pairing number means your TV and CableCARDTM ID. For further information regarding cable TV service, contact your local cable TV service provider(s).

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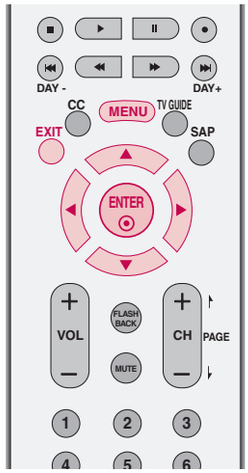
SCRAMBLED CHANNEL



1. Insert the CableCARD™. It takes about 1 minute to exchange data between the TV and the CableCARD™. The screen displays information as shown to the right.

2. Let your cable TV service provider know the CableCARD™ ID and Host ID.

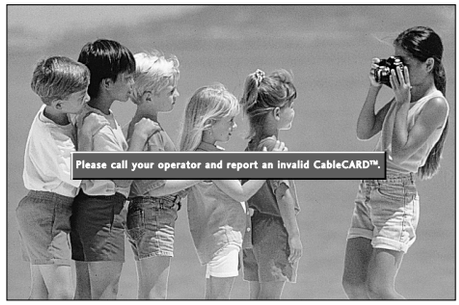
3. If your cable TV service provider registers the CableCARD™ ID and Host ID, you can watch premium or high value channel. If you are subscribed to them.

4. If you registered with the cable TV service provider, you can watch premium or high value channel without a message.

5. If the certificates don't match between the TV and the CableCARD™, the OSD (On screen display) displays as shown right.

CableCARD™ Message
In order to start service for this device, please contact customer service at Ph#: 1-866-303-0422
CableCARD(tm): 0-010-405-698-001
HOST ID: 0-080-000-000-226
EXIT Exit

1 2 3 4

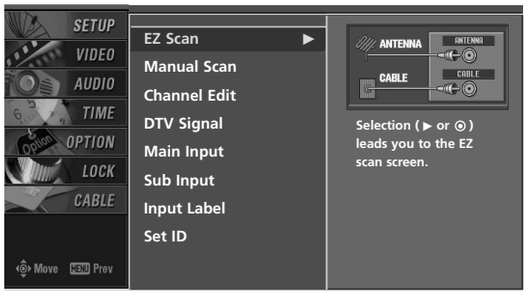


5

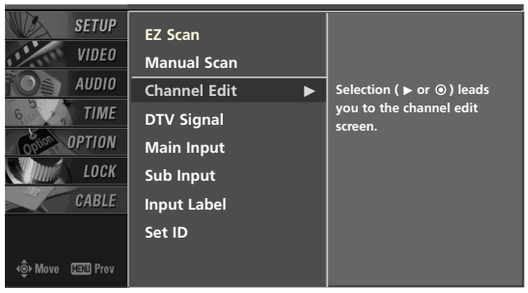
CABLE CHANNEL LIST

1 If you select **Channel Edit** after running the EZ Scan without a CableCARD™, the cable channel list displays, as in the picture below.

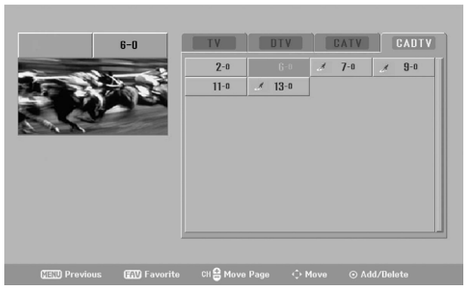
2 Insert the CableCARD™. After a few minutes(about 2~3 minutes), the TV receives a new cable channel list. (Occasionally more time will be needed)



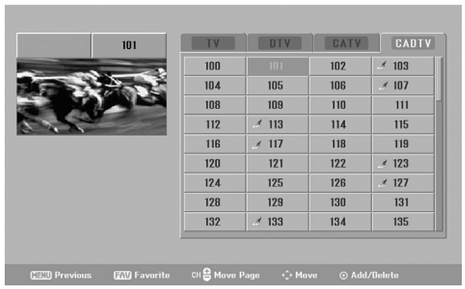
1



2



3

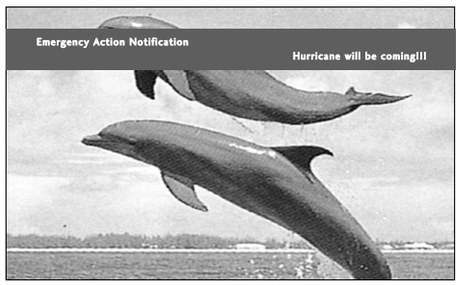


4

EMERGENCY MESSAGE ALERT

1 If an emergency situation occurs while you are watching the TV/DTV/CATV/CADTV, you may receive a message from your cable TV service provider(s).

2 When receiving an emergency message, the message is displayed on the screen as shown or the channel is changed to one that maintains the emergency message. When the broadcast is complete the TV returns to the channel you were viewing.



1 2

APPENDIX

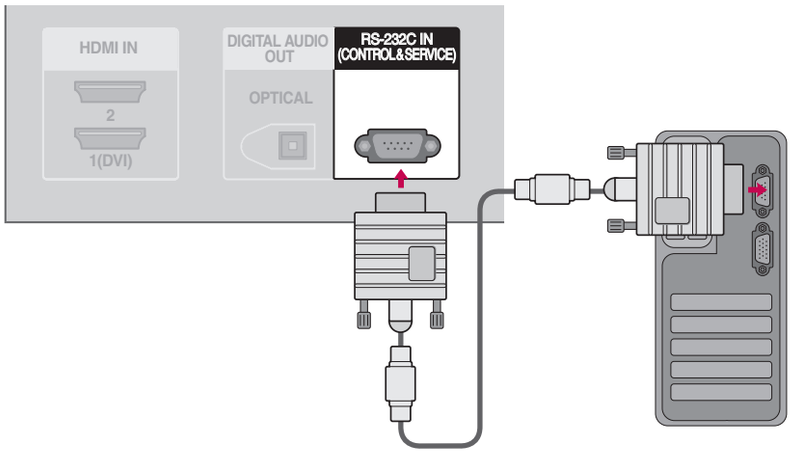
EXTERNAL CONTROL DEVICE SETUP

Connect the RS-232C (serial port) input jack to an external control device (such as a computer or an A/V control system) to control the product's functions externally.

Connect the serial port of the control device to the RS-232C jack on the product back panel.

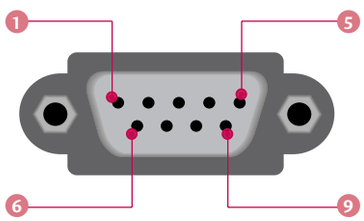
Note: RS-232C connection cables are not supplied with the product.

RS-232C Setup



Type of Connector; D-Sub 9-Pin Male

No.	Pin Name
1	No connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (DCE side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection



RS-232C Configurations

7-Wire Configurations (Standard RS-232C cable)

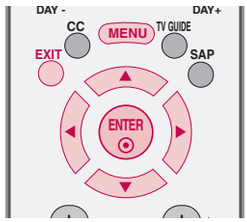
	PC	TV	
RXD	2	3	TXD
TXD	3	2	RXD
GND	5	5	GND
DTR	4	6	DSR
DSR	6	4	DTR
RTS	7	8	CTS
CTS	8	7	RTS
	D-Sub 9	D-Sub 9	

3-Wire Configurations(Not standard)

	PC	TV	
RXD	2	3	TXD
TXD	3	2	RXD
GND	5	5	GND
DTR	4	6	DTR
DSR	6	4	DSR
RTS	7	7	RTS
CTS	8	8	CTS
	D-Sub 9	D-Sub 9	

Set ID

Use this function to specify a TV ID number.
Refer to 'Real Data Mapping 1'. ▶ p.111.

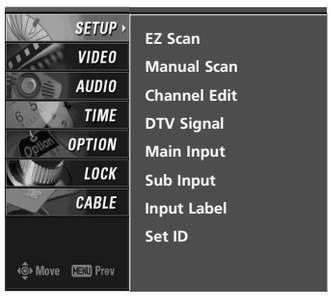


1. Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

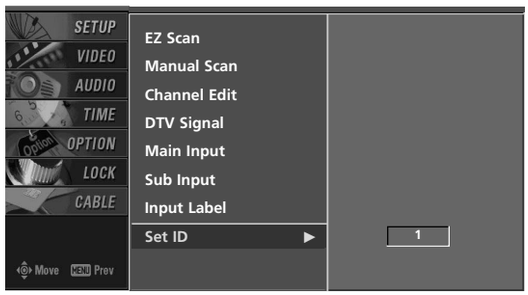
2. Press the ▶ button and then use ▲ or ▼ button to select **Set ID**.

3. Press the ▶ button and then use ▲ or ▼ button to adjust **Set ID** to choose the desired TV ID number. The adjustment range of Set ID is 1~99.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2 3

Communication Parameters

- Baud rate : 9600 bps (UART)
- Data length : 8 bits
- Parity : None
- Stop bit : 1 bit
- Communication code : ASCII code
- Use a crossed (reverse) cable.

APPENDIX

Command Reference List

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1	14. PIP/POP/Twin	k	n	0,1,2,5
02. Input Select	k	b	0 ~ 9	15. PIP Position	k	q	0 ~ 3
03. Aspect Ratio	k	c	(▶ p.111)	16. Treble	k	r	0 ~ 64
04. Screen Mute	k	d	0 ~ 1	17. Bass	k	s	0 ~ 64
05. Volume Mute	k	e	0 ~ 1	18. Balance	k	t	0 ~ 64
06. Volume Control	k	f	0 ~ 64	19. Color Temperature	k	u	0 ~ 3
07. Contrast	k	g	0 ~ 64	20. Red adjustment	k	v	0 ~ C8
08. Brightness	k	h	0 ~ 64	21. Green adjustment	k	w	0 ~ C8
09. Color	k	i	0 ~ 64	22. Blue adjustment	k	$	0 ~ C8
10. Tint	k	j	0 ~ 64	23. PIP Input Select	k	y	0 ~ 3
11. Sharpness	k	k	0 ~ 64				
12. OSD Select	k	l	0 ~ 1				
13. Remote Control Lock Mode	k	m	0 ~ 1				

	COMMAND1	COMMAND2	DATA0 (Hexadecimal)	DATA1 (Hexadecimal)	DATA2 (Hexadecimal)	DATA3 (Hexadecimal)	DATA4 (Hexadecimal)	DATA5 (Hexadecimal)
24. Channel Tuning	m	a	physical program high	major program low	major low	minor high	minor low	attribute
25. Channel Add/Del	m	b	0 ~ 1					
26. Key	m	c	(▶ p.114)					
27. Input Select	x	b	(▶ p.114)					
28. PIP Input Select	x	y	(▶ p.114)					

Transmission / Receiving Protocol

Transmission

[Command1][Command2][ ][Set ID][ ][Data][Cr]

[Command 1] : First command to control the set.(j, k, m or x)

[Command 2] : Second command to control the set.

[Set ID] : You can adjust the set ID to choose desired TV ID number in Setup menu. Adjustment range is 1~ 99. When selecting Set ID '0', every connected the TV is controlled. Set ID is indicated as decimal (1~ 99) on menu and as Hexa decimal (0x0~ 0x63) on transmission/receiving protocol.

[DATA] : To transmit command data.
Transmit 'FF' data to read status of command.

[Cr] : Carriage Return
ASCII code '0x0D'

[ ] : ASCII code 'space (0x20)'

OK Acknowledgement

[Command2][ ][Set ID][ ][OK][Data][x]

The TV transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

Error Acknowledgement

[Command2][ ][Set ID][ ][NG][Data][x]

The TV transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data1: Illegal Code

Data2: Not supported function

Data3: Wait more time

01. Power (Command2:a)

To control Power On/Off of the TV.

Transmission [k][a][ ][Set ID][ ][Data][Cr]

Data 0 : Power Off Data 1 : Power On

Acknowledgement [a][ ][Set ID][ ][OK/NG][Data][x]

* In a like manner, if other functions transmit 'FF' data based on this format, Acknowledgement data feedback presents status about each function.

02. Input Select (Command2:b) (Main Picture Input)

To select input source for the TV.

Transmission [k][b][ ][Set ID][ ][Data][Cr]

Data 0: DTV Data 1: Analog

Data 2: AV1 Data 3: AV2

Data 4: Component 1 Data 5: Component 2

Data 6: RGB-DTV Data 7: RGB-PC

Data 8: HDMI1/DVI Data 9: HDMI2

Acknowledgement [b][ ][Set ID][ ][OK/NG][Data][x]

03. Aspect Ratio (Command2:c) (Main picture format)

To adjust the screen format.

You can also adjust the screen format using the RATIO button on remote control or in the Option menu.

Transmission [k][c][ ][Set ID][ ][Data][Cr]

Date 1: 4:3 5: Zoom 2

2: 16:9 6: Set by program

3: Horizon 10: Cinema Zoom (1)

4: Zoom 1 ⋮

1F: Cinema Zoom (16)

Acknowledgement [c][ ][Set ID][ ][OK/NG][Data][x]

04. Screen Mute (Command2:d)

To select screen mute on/off.

Transmission [k][d][ ][Set ID][ ][Data][Cr]

Data 0 : Screen mute off (Picture on)

Data 1 : Screen mute on (Picture off)

Acknowledgement [d][ ][Set ID][ ][OK/NG][Data][x]

05. Volume Mute (Command2:e)

To control volume mute on/off.

You can also adjust mute using the MUTE button on remote control.

Transmission [k][e][ ][Set ID][ ][Data][Cr]

Data 0 : Volume mute off (Volume on)

Data 1 : Volume mute on (Volume off)

Acknowledgement [e][ ][Set ID][ ][OK/NG][Data][x]

06. Volume Control (Command2:f)

To adjust volume.

You can also adjust volume with the volume buttons on remote control.

Transmission [k][f][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64

Refer to 'Real data mapping1' as shown below.

Acknowledgement [f][ ][Set ID][ ][OK/NG][Data][x]

07. Contrast (Command2:g)

To adjust screen contrast.

You can also adjust contrast in the Video menu.

Transmission [k][g][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64

Refer to 'Real data mapping1' as shown below.

Acknowledgement [g][ ][Set ID][ ][OK/NG][Data][x]

08. Brightness (Command2:h)

To adjust screen brightness.

You can also adjust brightness in the Video menu.

Transmission [k][h][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64(*transmit by Hexadecimal code)

Refer to 'Real data mapping1' as shown below.

Acknowledgement [h][ ][Set ID][ ][OK/NG][Data][x]

09. Color (Command2:i)

To adjust the screen color.

You can also adjust color in the Video menu.

Transmission [k][i][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64

Refer to 'Real data mapping1' as shown below.

Acknowledgement [i][ ][Set ID][ ][OK/NG][Data][x]

*Real data mapping 1

0 : Step 0

⋮

A : Step 10 (SET ID 10)

⋮

F : Step 15 (SET ID 15)

10 : Step 16 (SET ID 16)

⋮

63 : Step 99 (SET ID 99)

64 : Step 100

APPENDIX

10. Tint (Command2:j)

To adjust the screen tint.
You can also adjust tint in the Video menu.

Transmission [k][j][ ][Set ID][ ][Data][Cr]

Data Red : 0 ~ Green : 64

*Refer to 'Real data mapping1'. ▶ p.111.

Acknowledgement [j][ ][Set ID][ ][OK/NG][Data][x]

11. Sharpness (Command2:k)

To adjust the screen sharpness.
You can also adjust sharpness in the Video menu.

Transmission [k][k][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64

*Refer to 'Real data mapping1'. ▶ p.111.

Acknowledgement [k][ ][Set ID][ ][OK/NG][Data][x]

12. OSD Select (Command2:l)

To select OSD (On Screen Display) on/off.

Transmission [k][l][ ][Set ID][ ][Data][Cr]

Data 0: OSD off Data 1: OSD on

Acknowledgement [l][ ][Set ID][ ][OK/NG][Data][x]

13. Remote Control Lock Mode (Command2:m)

To lock the remote control and the front panel controls on the set.

Transmission [k][m][ ][Set ID][ ][Data][Cr]

Data 0: Lock off Data 1: Lock on

Acknowledgement [m][ ][Set ID][ ][OK/NG][Data][x]

If you're not using the remote control and front panel controls on the TV, use this mode. When main power is on/off, remote control lock is released.

14. PIP / POP / Twin Picture (Command2:n)

To control the PIP (Picture-in-Picture)/POP/Twin picture. You can also control the PIP/POP/Twin picture using the PIP button on the remote control.

Transmission [k][n][ ][Set ID][ ][Data][Cr]

Data 0: PIP Off 2: Twin picture
1: PIP 5: POP4(POP Scan)

Acknowledgement [n][ ][Set ID][ ][OK/NG][Data][x]

15. PIP Position (Command2:q)

To select sub picture position for PIP.

Transmission [k][q][ ][Set ID][ ][Data][Cr]

Data 0: Right down on screen
Data 1: Left down on screen
Data 2: Left up on screen
Data 3: Right up on screen

Acknowledgement [q][ ][Set ID][ ][OK/NG][Data][x]

16. Treble (Command2:r)

To adjust treble.
You can also adjust treble in the Audio menu.

Transmission [k][r][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64(*transmit by Hexadecimal code)

*Refer to 'Real data mapping1'. ▶ p.111.

Acknowledgement [r][ ][Set ID][ ][OK/NG][Data][x]

17. Bass (Command2:s)

To adjust bass.
You can also adjust bass in the Audio menu.

Transmission [k][s][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64(*transmit by Hexadecimal code)

*Refer to 'Real data mapping1'. ▶ p.111.

Acknowledgement [s][ ][Set ID][ ][OK/NG][Data][x]

18. Balance (Command2:t)

To adjust balance.
You can also adjust balance in the Audio menu.

Transmission [k][t][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64(*transmit by Hexadecimal code)

*Refer to 'Real data mapping1'. ▶ p.111.

Acknowledgement [t][ ][Set ID][ ][OK/NG][Data][x]

19. Color Temperature (Command2:u)

To adjust color temperature.
You can also adjust color temperature in the Video menu.

Transmission [k][u][ ][Set ID][ ][Data][Cr]

Data 0: Medium 1: Cool 2: Warm 3: User

Acknowledgement [u][ ][Set ID][ ][OK/NG][Data][x]

20. Red adjustment(Command:v)

To adjust red in color temperature

Transmission [k][v][ ][Set ID][ ][Data][Cr]

Data Min:0 ~ Max:C8

*Refer to "Real data mapping 2". ▶ p.113.

Acknowledgement [v][ ][Set ID][ ][OK/NG][Data][x]

21. Green adjustment(Command:w)

To adjust green in color temperature.

Transmission [k][w][ ][Set ID][ ][Data][Cr]

Data Min:0 ~ Max:C8

*Refer to "Real data mapping 2" as shown below.

Acknowledgement [w][ ][Set ID][ ][OK/NG][Data][x]

22. Blue adjustment(Command:$)

To adjust blue in color temperature.

Transmission [k][$][ ][Set ID][ ][Data][Cr]

Data Min:0 ~ Max:C8

*Refer to "Real data mapping 2" as shown below.

Acknowledgement [$][ ][Set ID][ ][OK/NG][Data][x]

*Real data mapping 2
0 : -20
5 : -19
A : -18
⋮
5F: -1
64: 0
69: +1
⋮
C3 : +19
C8 : +20

23. PIP Input Select (Command2:y)

To select input source for sub picture in PIP/Twin picture mode.

Transmission [k][y][ ][Set ID][ ][Data][Cr]

Data 0: DTV 1: Analog
2: AV1 3: AV2

Acknowledgement [y][ ][Set ID][ ][OK/NG][Data][x]

24. Channel Tuning (Command: m a)

To tune channel to following physical/major/minor number.

Transmission [m][a][ ][Set ID][ ][Data0][ ][Data1][ ][Data2][ ][Data3][ ][Data4][ ][Data5][Cr]

Data 0: Physical Channel Number(Transmit by Hexadecimal code)
NTSC air:02~45
NTSC cable: 01, 0E~7D
ATSC air:01~45
ATSC cable:01~87

Data1,Data2: Major Channel Number (two part) / Channel Number (One part)
Data1: High byte
Data2: Low byte
Two part channel number:
Major number-Minor number
One part channel number:
If the channel band is ATSC digital cable, it can be used. In case of using one part channel number, minor channel does not need.

Data3, Data 4: Minor Channel Number
Data3: High byte , Data4: Low byte

(Next page continued)

APPENDIX

Data5:

7 Main/Sub Picture	6 Two/One Part Channel	5 Using Physical Channel	4 Reserved	3	2	1	0	Step
0 Main	0 Two	0 Use	x	0	0	0	0	NTSC Air
1 Sub	1 One	1 No Use	x	0	0	0	1	NTSC Cable
			x	0	0	1	0	ATSC Air
			x	0	0	1	1	ATSC Cable_std
			x	0	1	0	0	ATSC Cable_hrc
			x	0	1	0	1	ATSC Cable_irc
			x	0	1	1	0	ATSC cable_auto
			x	1	1	1	1	Reserved
			x	x	x	x	x	-
			x	1	1	1	1	Reserved

All data are transmitted by Hexadecimal code

* Two/One part Channel: 6th bit

This bit is used in a cable-ready system.

* Using physical channel: 5th bit

If the channel band is NTSC air or NTSC cable, channel tuning can be done by only physical channel. In this case, using physical channel bit must be low(0).

But if the channel band is ATSC air or ATSC cable, there are two cases that physical channel enable or disable.

If the physical channel sending is meaningful, you should set this bit low(0). If the physical channel sending is meaningless, you should set this bit high(1).

Example)

1. Analog channel: NTSC cable, channel number(35), main picture Command: ma 00 23 xx xx xx xx 01 attribute(0x01): main picture, two part(it's not mandatory), using physical channel, NTSC cable 'xx' data: don't care major and minor channel number in case analog channel tuning.
2. Digital channel: ATSC air, channel number(don't know physical channel, major(30), minor(3)), sub picture Command: ma 00 xx 00 1E 00 03 A2 attribute(0xA2): sub picture, two part, not using physical channel, ATSC air 'xx' data: don't care analog channel number in case digital channel tuning.
3. Digital channel: ATSC air, channel number(physical(20),major(20), minor(3)), sub picture Command: ma 00 14 00 14 00 03 82

attribute(0x82): sub picture, two part, using physical channel, ATSC air.

Acknowledgement [a] [ ] [Set ID] [ ] [OK] [Data0] [Data1] [Data2] [Data3] [Data4] [x] [a] [ ] [Set ID] [ ] [NG] [Data0] [x]

25. Channel Add/Del (Command: m b)

To add and delete the channels

Transmission [m] [b] [ ] [Set ID] [ ] [Data] [Cr]

Data 0: Channel Delete Data 1: Channel Add

Acknowledgement [b] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

26. Key (Command: m c)

To send IR remote key code.

Transmission [m] [c] [ ] [Set ID] [ ] [Data] [Cr] s

Data Key code: Refer to page 116.

Acknowledgement [c] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

27. Input select(Command: x b) (Main Picture Input)

To select input source for TV.

Transmission [x] [b] [ ] [Set ID] [ ] [Data] [Cr]

Data 00 : DTV (Antenna)	Data 01 : DTV (Cable)
Data 10 : Analog (Antenna)	Data 11 : Analog (Cable)
Data 20 : AV1	Data 21 : AV2
Data 40 : Component 1	Data 41 : Component 2
Data 50 : RGB DTV	Data 60 : RGB PC
Data 90 : HDMI1/DVI	Data 91 : HDMI2

Acknowledgement [b] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

28. PIP Input Select(Command: x y)

To adjust input source for sub picture in PIP mode.

Transmission [x] [y] [ ] [Set ID] [ ] [Data] [Cr]

Data 00 : DTV (Antenna)

Data 01 : DTV (Cable)

Data 10 : Analog (Antenna)

Data 11 : Analog (Cable)

Data 20 : AV1

Data 21 : AV2

Acknowledgement [y] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

IR CODES

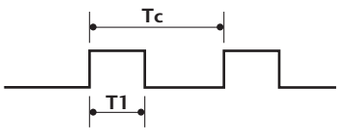
1. How to Connect

■ Connect your wired remote control to the Remote Control port on the TV.

2. Remote Control IR Codes

■ **Output waveform**

Single pulse, modulated with 37.917KHz signal at 455KHz



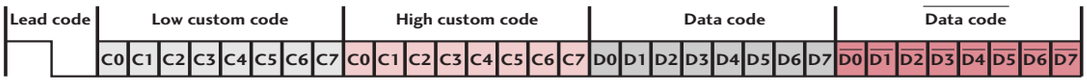
Carrier frequency

FCAR = 1/TC = fOSC/12

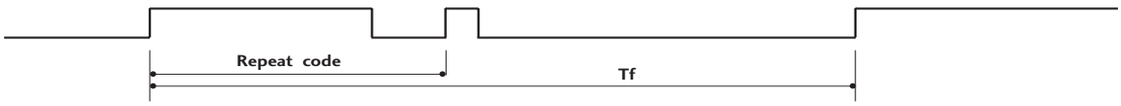
Duty ratio = T1/TC = 1/3

■ **Configuration of frame**

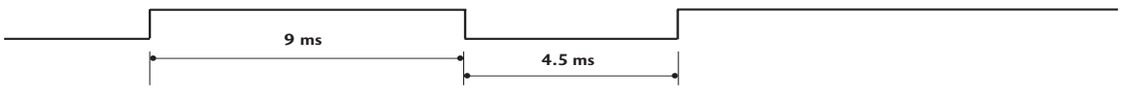
1st frame


Lead code
Low custom code
High custom code
Data code
Data code
C0 C1 C2 C3 C4 C5 C6 C7 C0 C1 C2 C3 C4 C5 C6 C7 D0 D1 D2 D3 D4 D5 D6 D7 D0 D1 D2 D3 D4 D5 D6 D7

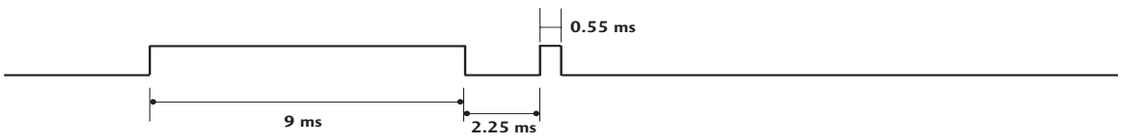
Repeat frame



■ **Lead code**

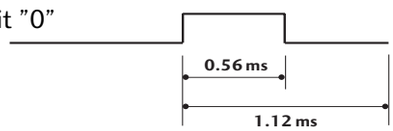


■ **Repeat code**

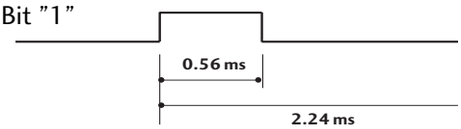


■ **Bit description**

Bit "0"

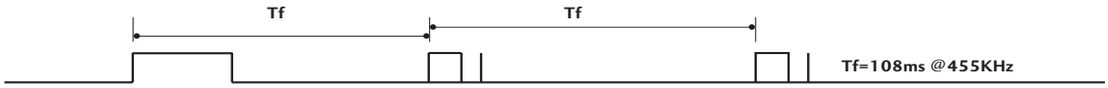


Bit "1"



■ **Frame interval: Tf**

The waveform is transmitted as long as a key is depressed.



APPENDIX

Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
0F	TV INPUT	Remote control Button	BF	COMPONENT1	Discrete IR Code (Component1 Input Selection)
0B	INPUT	Remote control Button			
08	POWER	Remote control Button (Power On/Off)	D4	COMPONENT2	Discrete IR Code (Component2 Input Selection)
79	RATIO	Remote control Button			
0E	TIMER	Remote control Button	D5	RGB-PC	Discrete IR Code (RGB-PC Input Selection)
10-19	Number Key 0-9	Remote control Button			
4C	- (Dash)	Remote control Button	D7	RGB-DTV	Discrete IR Code (RGB-DTV Input Selection)
1A	FLASHBK	Remote control Button			
09	MUTE	Remote control Button	C6	HDMI1/DVI	Discrete IR Code (HDMI1/DVI Input Selection)
02	VOL +	Remote control Button			
03	VOL -	Remote control Button	CC	HDMI2	Discrete IR Code (HDMI2 Input Selection)
00	CH +	Remote control Button			
01	CH -	Remote control Button	76	Ratio 4:3	Discrete IR Code (Only 4:3 Mode)
1E	FAV	Remote control Button			
AA	INFO	Remote control Button	77	Ratio 16:9	Discrete IR Code (Only 16:9 Mode)
39	CC	Remote control Button			
40	▲	Remote control Button	AF	Ratio Zoom	Discrete IR Code (Only Zoom1 Mode)
41	▼	Remote control Button			
07	◀	Remote control Button	70	POP	Discrete IR Code (Channel Search)
06	▶	Remote control Button			
44	ENTER	Remote control Button	C4	POWER ON	Discrete IR Code (Only Power On)
43	MENU	Remote control Button			
52	EZ SOUND	Remote control Button	C5	POWER OFF	Discrete IR Code (Only Power Off)
4D	EZ PIC	Remote control Button			
5B	EXIT	Remote control Button	A9	TV GUIDE	Remote control Button
60	PIP	Remote control Button	92	APM	Remote control Button
72	PIPCH -	Remote control Button	E1	− ☼	Remote control Button
71	PIPCH +	Remote control Button	E0	☼ +	Remote control Button
61	PIP INPUT	Remote control Button			
63	SWAP	Remote control Button			
0A	SAP	Remote control Button			
CB	ADJUST	Remote control Button			
D6	TV	Discrete IR Code (TV Input Selection)			
5A	AV1	Discrete IR Code (AV1 Input Selection)			
D0	AV2	Discrete IR Code (AV2 Input Selection)			

PROGRAMMING THE REMOTE CONTROL

The provided universal remote control can be programmed to operate most remote-controllable devices.
Note that the remote may not control all models of other brands.

Programming a code into a remote mode

1. To find out whether your remote control can operate each device without programming, turn on the device (such as a VCR) and press the corresponding mode button on the remote.
   After that, press the **POWER** button. If the device is turned off and it responds properly the remote control need not be programmed. If not, the remote should be programmed to operate the device. The programming procedures are explained below.

2. Press the **MENU** and **MUTE** button continuously at the same time for two seconds; the currently selected device button is illuminated.
   If you don't press any button for 20 seconds, the light on the mode button will be turned off. In that case, you have to repeat from step 2.

3. Enter the appropriate code from the code table on the following pages. When pressing the button, the light blinks at a time. If the device turned off, the programming is successful.

4. Press the **MENU** button to store the code. After blinking twice, this code is stored.

5. Test the remote control functions to see if the device responds properly. If not, steps 2-5.

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PROGRAMMING CODES

VCRs

Brand	Codes				Brand	Codes				Brand	Codes			
AIWA	034				MAGNAVOX	031	033	034	041	SAMSUNG	032	040	102	104
AKAI	016	043	046	124		067	068				105	107	109	112
	125	146				012	031	033	067		113	115	120	122
AMPRO	072				MARANTZ	069					125			
ANAM	031	033	103		MARTA	101				SANSUI	022	043	048	135
AUDIO DYNAMICS	012	023	039	043	MATSUI	027	030			SANYO	003	007	010	014
BROKSONIC	035	037	129		MEI	031	033				102	134		
CANON	028	031	033		MEMOREX	003	010	014	031	SCOTT	017	037	112	129
CAPEHART	108					033	034	053	072		131			
CRAIG	003	040	135			101	102	134	139	SEARS	003	008	009	010
CURTIS MATHES	031	033	041		MGA	045	046	059			013	014	017	020
DAEWOO	005	007	010	064	MINOLTA	013	020				031	042	073	081
	065	108	110	111	MITSUBISHI	013	020	045	046		101			
	112	116	117	119		049	051	059	061	SHARP	031	054	149	
DAYTRON	108					151				SHINTOM	024			
DBX	012	023	039	043	MTC	034	040			SONY	003	009	031	052
DYNATECH	034	053			MULTITECH	024	034				056	057	058	076
ELECTROHOME	059				NEC	012	023	039	043		077	078	149	
EMERSON	006	017	025	027		048				SOUNDESIGN	034			
	029	031	034	035	NORDMENDE	043				STS	013			
	036	037	046	101	OPTONICA	053	054			SYLVANIA	031	033	034	059
	129	131	138	153	PANASONIC	066	070	074	083		067			
FISHER	003	008	009	010		133	140	145		SYMPHONIC	034			
FUNAI	034									TANDY	010	034		
GE	031	033	063	072	PENTAX	013	020	031	033	TATUNG	039	043		
	107	109	144	147		063				TEAC	034	039	043	
GO VIDEO	132	136			PHILCO	031	034	067		TECHNICS	031	033	070	
HARMAN KARDON		012	045		PHILIPS	031	033	034	054	TEKNIKA	019	031	033	034
HITACHI	004	018	026	034		067	071	101			101			
	043	063	137	150	PILOT	101				THOMAS	034			
INSTANTREPLAY	031	033			PIONEER	013	021	048		TMK	006			
JCL	031	033			PORTLAND	108				TOSHIBA	008	013	042	047
JCPENNY	012	013	015	033	PULSAR	072					059	082	112	131
	040	066	101		QUARTZ	011	014			TOTEVISION	040	101		
JENSEN	043				QUASAR	033	066	075	145	UNITECH	040			
JVC	012	031	033	043	RCA	013	020	033	034	VECTOR RESEARCH	012			
	048	050	055	060		040	041	062	063	VICTOR	048			
	130	150	152			107	109	140	144	VIDEO CONCEPTS	012	034	046	
KENWOOD	014	034	039	043		145	147			VIDEOSONIC	040			
	047	048			REALISTIC	003	008	010	014	WARDS	003	013	017	024
LG (GOLDSTAR)	001	012	013	020		031	033	034	040		031	033	034	040
	101	106	114	123		053	054	101			053	054	131	
LLOYD	034				RICO	058				YAMAHA	012	034	039	043
LXI	003	009	013	014	RUNCO	148				ZENITH	034	048	056	
	017	034	101	106	SALORA	014					058	072	080	101
MAGIN	040													

DVD

Brand	Codes	Brand	Codes	Brand	Codes
APEX DIGITAL	022	MITSUBISHI	002	RCA	005 006
DENON	020 014	NAD	023	SAMSUNG	011 015
GE	005 006	ONKYO	008 017	SONY	007
HARMAN KARDON	027	PANASONIC	003 009	THOMPSON	005 006
JVC	012	PHILIPS	013	TOSHIBA	019 008
LG	001 010 016 025	PIONEER	004 026	YAMAHA	009 018
MAGNAVOX	013	PROCEED	021	ZENITH	010 016 025
MARANTZ	024	PROSCAN	005 006		

APPENDIX

TROUBLESHOOTING CHECKLIST

The operation does not work normally.	
The remote control doesn't work	■ Check to see if there is any object between the product and the remote control causing obstruction. Ensure you are pointing the remote control directly at the TV. ■ Ensure that the batteries are installed with correct polarity (+ to +, - to -). ■ Ensure that the correct remote operating mode is set: TV, VCR etc. ■ Install new batteries.
Power is suddenly turned off	■ Is the sleep timer set? ■ Check the power control settings. Power interrupted. ■ No broadcast on station tuned with Auto off activated.

The operation does not work normally.	
No picture &No sound	■ Check whether the product is turned on. ■ Try another channel. The problem may be with the broadcast. ■ Is the power cord inserted into wall power outlet? ■ Check your antenna direction and/or location. ■ Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.
Picture appears slowly after switching on	■ This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes.
No or poor color or poor picture	■ Adjust Color in menu option. ■ Keep a sufficient distance between the product and the VCR. ■ Try another channel. The problem may be with the broadcast. ■ Are the video cables installed properly? ■ Activate any function to restore the brightness of the picture.
Horizontal/vertical bars or picture shaking	■ Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels	■ Station or cable product experiencing problems, tune to another station. ■ Station signal is weak, reorient antenna to receive weaker station. ■ Check for sources of possible interference.
Lines or streaks in pictures	■ Check antenna (Change the direction of the antenna).

The audio function does not work.	
Picture OK & No sound	■ Press the VOL or VOLUME button. ■ Sound muted? Press MUTE button. ■ Try another channel. The problem may be with the broadcast. ■ Are the audio cables installed properly?
No output from one of the speakers	■ Adjust Balance in menu option.
Unusual sound from inside the product	■ A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a fault with the product.

There is a problem in PC mode. (Only PC mode applied)	
The signal is out of range	■ Adjust resolution, horizontal frequency, or vertical frequency. ■ Check the input source.
Vertical bar or stripe on background & Horizontal Noise & Incorrect position	■ Work the Auto configure or adjust clock, phase, or H/V position. (Option)
Screen color is unstable or single color	■ Check the signal cable. ■ Reinstall the PC video card.

APPENDIX

There is a problem on the TV Guide On Screen™ function.	
My Guide listings disappeared after a power failure	■ You should begin to receive listings again within 24 hours.
Some channel numbers in the Guide are incorrect.	■ You can correct them using Change Channel Display under the Setup menu.
I have not received any Guide listings.	■ Listings usually appear within 24 hours after a successful Setup. ■ It may take up to a week to fill the Listings grid with the full 8 days of listings. ■ If you see a Listings grid with the message "No Listings" displayed you should start to receive updated program listings within 24 hours. ■ If the message "No data for this screen" is displayed: - Check the connections between the TV, cable, antenna. - Verify Setup information under Change System Settings. - If this message is still displayed after multiple days, please contact the LG®Brand Customer Support.
A show I set to Remind did not.	■ Check the Schedule menu and verify that the show is listed as a reminder.
I set a show to Auto-Tune and it did not.	■ Check the Schedule menu and verify that the show is listed as a Reminder. ■ Highlight the show under Listings and do the following: - Press the Menu key on the remote. - Use the down arrow to highlight Edit Reminder, and press **ENTER**. - Verify the Auto-Tune option reads Yes. ■ The TV must be On at the scheduled time for Auto-Tune.
I set a show with the Power On TV option and it did not	■ Check the Schedule menu and verify that the show is listed as a Reminder. ■ Highlight the show under Listings and do the following: - Press the Menu key on the remote. - Use the down arrow to highlight Edit Reminder, and press **ENTER**. - Verify the Power On TV option reads Yes.

MAINTENANCE

Early malfunctions can be prevented. Careful and regular cleaning can extend the amount of time you can enjoy your new TV.

Caution: Be sure to turn the power off and unplug the power cord before you begin any cleaning.

Cleaning the Screen

1. Here's a great way to keep the dust off your screen for a while. Wet a soft cloth in a mixture of lukewarm water and a little fabric softener or dish washing detergent. Wring the cloth until it's almost dry, and then use it to wipe the screen.
2. Make sure the excess water is off the screen, and then let it air-dry before you turn on your TV.

Cleaning the Cabinet

- To remove dirt or dust, wipe the cabinet with a soft, dry, lint-free cloth.
- Please be sure not to use a wet cloth.

Extended Absence

⚠ CAUTION

- If you expect to leave your TV dormant for a long time (such as a vacation), it's a good idea to unplug the power cord to protect against possible damage from lightning or power surges.

APPENDIX

PRODUCT SPECIFICATIONS

MODELS		**47LB1DA** (47LB1DA-UB)
Dimensions (Width x Height x Depth)	including stand	50.4 x 32.6 x 12.4 inches 1280.0 x 828.0 x 315.0 mm
	excluding stand	50.4 x 28.3 x 5.3 inches 1280.0 x 719.0 x 135.0 mm
Weight	including stand	124.6 pounds / 56.5 kg
	excluding stand	98.9 pounds / 44.9 kg
Power requirement		AC100-240V ~ 50/60Hz
Television System		NTSC-M, ATSC, 64 & 256 QAM
Program Coverage		VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135
External Antenna Impedance		75 ohm
Environment condition	Operating Temperature	32 ~ 104°F (0 ~ 40°C)
	Operating Humidity	Less than 80%
	Storage Temperature	-4 ~ 140°F (-20 ~ 60°C)
	Storage Humidity	Less than 85%

■ The specifications shown above may be changed without prior notice for quality improvement.